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July
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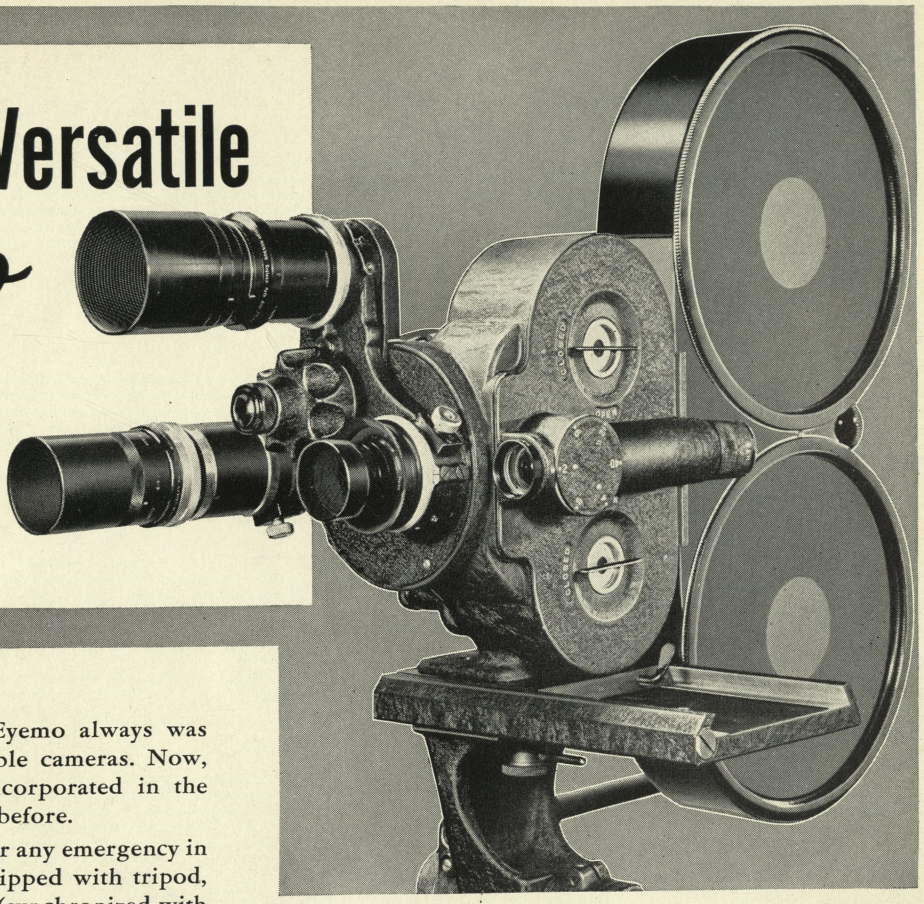

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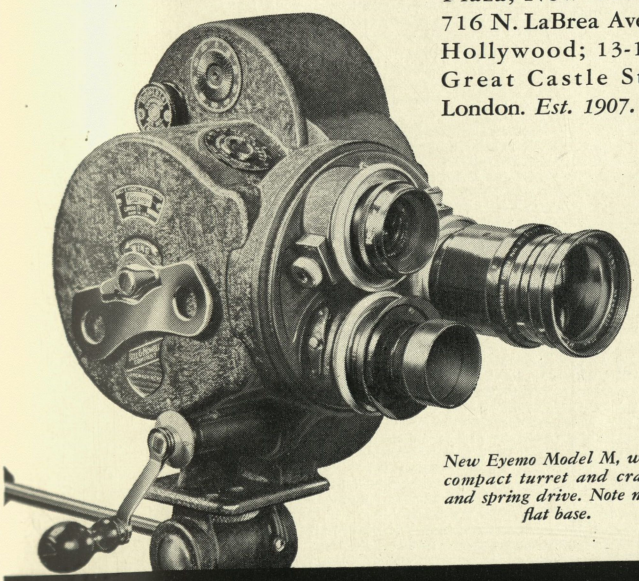

New Eyemo Model M, with compact turret and crank and spring drive. Note new flat base.

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The Cover

AT THE Paramount Studio Karl Struss, A.S.C., director of photography on "Island of Lost Men," upper right hand corner, supervises a vertical shot. In the left upper corner is J. Carroll Naish, who is featured with Anna May Wong. Directly behind the camera is Director Kurt Neumann. In front of the director and lying under the camera is George Clemens, operative cameraman.

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Just Here and There

By GEORGE BLAISDELL

THE June gathering of the Los Angeles Cinema Club was listed as a special dinner meeting. Also it was marked as a particularly successful one from several really important viewpoints.

Among these were the number and quality of films submitted in this "uncut 100-foot reel contest." The 100-foot reel was the maximum length. Several were submitted of 50-foot length.

Then again the handling of the exhibition was most efficient. This will be another story in fact, and well it may be. As one member loaded the projector another sitting opposite him with his own device for rewinding was doing just that in a most speedy way. Before the loading was completed the rewinding was finished. Then the chairman, when the last of the four judges was through with his notes, gave the word for darkening the room. The film was on the screen in jigtime.

There were three prizes to be distributed at the end of the showing. The committee of four judges soon had its report, in five or surely ten minutes, as to its opinion on the three subjects that stood the highest.

These were reported back to the members, who had been entertained in the meantime by the showing of a non-contesting short. Then the three selected films were again run for the consideration and judgment of the members.

The members voted on but one subject, that which each considered the best. The first prize went to the top and the second and third prizes were awarded the pictures that ranked accordingly.

The plan was the committee's. It worked out without a ripple and seemingly so smoothly there will be no occasion for holding any inquest whenever any two disappointed partisans get their heads together.

Former Chief of Police Davis was a member of the committee. His judgment of picture values is most keen, fortified by a memory for details praiseworthy and otherwise that would do credit to a veteran bridge player.

When the committee uncovered a difference of opinion, two favoring the inclusion of a certain picture in the three winners and two another, the matter quickly was solved by flipping a coin as to which one should be favored. And at the chief's suggestion the identity of the loser was uncovered to the members.

●

Down at Laguna Beach for the Memorial Day weekend there was witnessed an incident unusual in character but after all quite understandable. A small boy was walking between a man and woman, plainly his parents, down a lane leading to the ocean. He was holding hands with them, skipping from side to side and feeling exceedingly gay.

The tide was high and the surf was pounding, smashing and roaring over ledges and hardened sand. The sky bore an ominous look.

As the lad came within view of the breakers he suddenly stopped. Over his face spread a look of terror. He grabbed at his mother and screamed. She put her arms around the child and tried to assure him there was no danger, but at the same time she led him away from the surf. She saw the look of concern in the eyes of an interested bystander.

"You know he never before saw the ocean," she explained.

●

A young man came down on the beach with a surfboard. Jumping around him and barking loudly was a small, black dog. The young man conveyed the board outside the surf and the dog continued to bark and prance.

In a few moments the board and its rider came tearing to shore. The barking was renewed. The rider picked up the dog and a bit later rider and dog were aboard the plank. The barking suddenly stopped. The pup was frightened but game. At least he was with his master.

A camera was unslung, awaiting the rush of man and dog to shore. It must have been three quarters of an hour before the man took a move in that direction. Finally he came, with the dog, shrinking, timid perhaps but silent, sitting tight. The board came through the breakers and floated into shallow water.

The dog bounded ashore and barked as he ran. Then he jumped into the shallow water and ran toward the board. Plainly he loved the board less but the companionship of his master more.

●

On the land side of Laguna is a hill, something over a thousand feet in elevation surely and maybe much more, known locally as "Top of the World." Just over the crest is a sudden descent to the floor of a valley, with a winding stream flowing across it. Hills pile up behind gradually, attaining the dignity of mountains. Cattle in seemingly small groups are scattered over hill and valley.

In the scores of square miles within the range of the eye there is but one homestead visible. Sitting by the roadside one is conscious of the silence. Suddenly it is broken by the distant bellowing of cattle, so far distant as to be hardly visible.

Away from the roadside and off in the fields, or desert, a quarter mile away, the silence is transformed to a distinct hum, almost a roar, of bees, literally of millions of them.

If you have occasion to visit this resort town sixty miles south of Los Angeles and are packing a camera you will be repaid by a visit to the "Top of the World." You may identify the location by a grove of trees at the crest. The tenderfoot may get an idea of the vastness of ranch areas in lands far from the madding crowd when he sees with his own eyes a view that may be found within a five minute ride from the crowded highway.

And it will be a gloriously impressive view he will carry with him for days to come.

●

At Pantages on the last day of May Universal previewed a picture that is due to be heard from in many lands. "The Sun Never Sets" tells a story of England's Empire, as its title establishes.

From the Paramount studio come a bride and bridegroom. The bride is Madeline Lieurance, make-up department secretary; the groom is Malcolm Bullock, still photographer. To the latter's associate, Talmage Morrison, we are indebted for a still which commands a place of honor in the future home of the Bullocks.

The fact it is a story of men rather than of men and women seems in no measurable way to militate against its interest.

Douglas Fairbanks Junior and Basil Rathbone are supported by Lionel Atwill, C. Aubrey Smith and Melville Cooper among others in a stern drama and a great story. To the picture's support the British Empire may be expected to put its stout shoulder, but the theatergoers of every country that stands for pride of race will find in its theme an abundance of thrill and stimulation.

Some pictures undergoing preview are fortunate in colliding with a weak sister in the production that holds down the boards at the theater. Universal bumped into Howard Hawks' Columbia production of "Only Angels Have Wings." Powerful as is that subject it detracted in no way from the one under preview.

It was an unusual pair of pictures, one fortifying and making stronger its companion. In theme one was the antithesis of the other. The Universal production was a tale of first families, of great families. Columbia's was of the everyday run of the mine man and woman, their forbears unheralded and unsung. Yet in each, whether of first family or otherwise, men battled daily problems in the same way.

It was a rare pair to draw.

●

In the New Academy Review Theater, which is conducting a series of old favorites, Douglas Fairbanks Senior's "Mark of Zorro" was shown early in June. The picture was released in 1920, nineteen years ago. The subject was of genuine interest in several ways aside from that attaching to its drama.

In the first place, pictures that antedate the coming of sound are usually killed for public presentation by reason of the speed at which they are run. Photographed at sixteen to the second, they are shown on projectors adjusted to be run at a speed that has come with sound, i. e., twenty-four a second.

That is why a picture ten years old always meets ridicule on the part of an audience when it is shown in a theater. It is run half as fast again as when originally photographed. The opinion of those in the house, at least a great majority of them, is that it was photographed as they see it on the screen.

Don Gledhill, executive secretary of the Academy, made sure that would not happen. He installed a projector that could be adjusted to the pre-sound basis. So was shown "Mark of Zorro," shown as it was photographed. The print proved to be in excellent condition.

There was a plenty of difference in the way of interpretation, however. The use of titles as a means of conveying the language of the speakers and the absence of sound meant overemphasis on the part of the actors. There was an absence of the normal expressions of today.

Those who witnessed the showing of pictures prior to the coming of sound will recall the pest who insisted on reading titles aloud, either for the benefit of himself or for others. The showing of titles resurrected one of those forgotten pests on the occasion to which we are referring.

A careful examination of the offender at the conclusion of the running showed him to be a young man of perhaps twenty-five years of age. He had the earmarks of the smart alec, but he had the ways of the same old pest.

He could not, however, dispell the pleasure of witnessing one of the famous examples of the athletic and acrobatic Senior, who in a major way was the first in his specialty even as he was the last.

●

Universal may have performed a public service when it secured release of Gilbert & Sullivan's "Mikado" in Technicolor. Pictorially color enhances the beauty of the subject. Without saying, good color does just that. But in "Mikado' there also are other factors.

There is the matter of singing, individually and collectively. The chorus is of the D'Oyly Carte opera company, which was an institution when men now old were young and in which forty or whatever the number may be sing like one . . . and how rarely well they sing.

The principals are all trained not only as singers but as singers in Gilbert and Sullivan parts, so skilled in their work that the tongue-twisting lyrics of these famous unsucceeded composers fall from their lips with the ease and smoothness of rolling down a slope. The roles are handled with the surety and poise of second nature.

The music is recorded by the London Symphony Orchestra. The picture is adapted, conducted and produced by Geoffrey Toye. And it is directed by Victor Schertzinger, trained in the ways of Hollywood, in its technique . . . and its traditions.

Seemingly these brief remarks have covered the major factors in the making of a musical. Yet there are two which stand out:

The "adaptation" was a shadow. The script was followed. Director Schertzinger worked from Gilbert's original mss, complete with marginal notations. The opera was reproduced as it was produced in 1885. It was a new screen technique, flying in the face of producer interpretation of the public's musical taste and in the face of the low level that has been dug for that taste by altogether too many of the tired and indifferent composers of the day.

And the recording was in the same manner as was employed by Universal in the making of "100 Men and a Girl."

It is still all a remarkable picture. That is one man's opinion, of a non-musician admittedly, who is convinced this opera fifty-five years old is going to carry remarkable appeal to every land where English is spoken.

It is his belief that quite ill-founded is the Hollywood timidity implied and expressed in a few vocal quarters that the subject will be inclined to go floppo when shown among those who may have failed to attain that certain exclusive and localized plane of sophistication.

But don't be misled. Go see it for yourself.

And if in that opera and in that performance of it you and others discover something in the way of genuine entertainment quite delightfully different from anything being created generally today, of painstaking lyrics that seemingly are unmatchable, then indeed has Universal performed a public service in bringing to us "Mikado" in all the accumulated glories of a rich half-century.

●

The local fire department paid a visit early in the morning of June 7 to the home of the American Society of Cinematographers in Hollywood. The providential arrival of the firemen at the moment when the fire was on the point of turning loose its fury prevented a blaze of total destruction.

The firemen worked rapidly and most efficiently, extinguishing the blaze without a trace practically of damage from water. So it follows for the intervening weeks there have been builders redoing the job.

Fred Coleman, in charge of the plasterers, let drop a remark to the effect he knew the house—in fact, he put in the plaster which the house has carried since it was built. That was twenty-five or more years ago, when it was erected by Coffin and Son, real estate men, for their own occupancy. In later years Conway Tearle bought the property and at 1782 North Orange Drive lived many years.

Where the entire block, from Hollywood Boulevard to Franklin Avenue, now is and for many years has been filled with homes, 1782 when erected stood alone.

Coleman recalled a characteristic of the construction of the house: Every piece of wood, he declared, large and small, put into it was white cedar. He suggested parallel construction is rare these later days, and possibly in many cases might be somewhat prohibitive.

Death of Frank B. Good

FRANK B. GOOD, A.S.C., suffered a fatal heart attack on May 31. His death was a shock to his friends and associates, made all the greater by its suddenness and total unexpectedness. For years he had been secretary of the society, and but a few days prior to his passing his fellow-members of the board had honored him by adding the duties of treasurer to his work.

Frank Good will be remembered as one who aimed to do the thing that was right rather than the thing which seemed personally expedient.

He was 54 years old. He leaves a wife, Mary Dolores.

SOUND MEN WITNESS REMARKABLE VOCODER TRYOUT

ON the evening of Wednesday, June 21, in the review room of Electrical Research Products Inc., sound department executives and engineers of the Hollywood major studios witnessed a demonstration of the machine described as the Vocoder.

The machine which with the strongest of reasons might better be described as The Cabinet of Doctor Somebody is contained in a structure perhaps seven feet square and high. It was developed by Homer Dudley and his associates in the Bell Telephone Company. Mr. Dudley and his assistant, Charles Vadersen, were delegated by the company to come to Hollywood.

While Erpi's representatives state the work on the device is in an experimental stage nevertheless it is unquestionable the company has something revolutionary by the tail.

Undoubtedly it is a realization of that fact that caused the heads of Erpi to depart from precedent in sending to the West Coast equipment on which they had not set the seal of their final approval—and with it delegating men connected with its creation.

The Vocoder was developed basically for telephonic use. And so quite naturally men schooled in the ways of sound will be impressed by it and by its possibilities.

Possiilities Unlimited

On the other hand, men trained in providing entertainment for the masses will be bound to envision its possibilities as limitless.

But note the coldly formal manner in which the company officially describes just what this machine accomplishes. It first characterizes it as an electrical instrument that investigates and analyzes speech and then proceeds to remake it in practically any form desired.

To the layman it does that 100 percent.

Now while the Vocoder was developed basically for telephonic use, it also plays an important role in the Voder, the device for manufacturing artificial speech.

"Mr. Dudley and his assistant showed how easy it is to change the pitch of a voice, reverse voice inflection, raise a baritone to a tenor or soprano, or lower it to base tone."

They did more than that.

One of the most thrilling sequences was the brief period in which young Vadersen sang a trio; putting it another way, his voice was uttered to the machine as a solo. It emerged from the speaker as a trio.

It was a simple matter of using his normal voice. Then he set a key which switched on another wire a few points below his own voice and then a second that registered a few points above his own.

Of course, so far the device has developed but thirty ranges. Still, that would seem sufficient to give pause to the musicians of the world. It touches every phase in the realm of music.

It can build up or it can tear down. It can do much on the serious side of entertainment.

And in the cartoon field? "Snow White," which many believed would stand for years as the peak of entertainment, already is passe—and the first to recognize that as obvious will be Walt Disney.

For now it may be told that the Disnerian imagination really may run riot —what with voices of boys and girls, men and women, ogres and hobgoblins. Just imagine Donald Duck singing a trio!

But let the company tell its own story:

Official Statement

Presentation of the instrument to the studio sound executives was for the purpose of acquainting them with the newly developed machine, and to initial consideration of its possible use in motion picture sound recording, perhaps with modifications.

Usefulness of the Vocoder in speech studies lies in its ability to vary, singly or together, each of the elements of speech. The raw material of speech is two streams of sound. The proper variations of these two streams give us intelligible speech.

The first sound stream is characterized by three properties: it has a pitch which is determined by the fundamental frequency of vibration; it has an intensity which is determined by the total sound power issuing from the mouth of the speaker; and it is a quality which is determined by the relative amounts of sound power carried in fixed frequency bands.

All three of these properties of the stream vary as the stream proceeds. The second sound stream is characterized by having no pitch; it has a noise and has an intensity and quality which vary as the stream proceeds. During most of the speech only one of these two streams is active at one time.

Mr. Dudley proceeded to demonstrate the first mentioned sound stream, which he designated as "the Buzz." It was a rich full note, something like a muted automobile horn. From this note, electrical filters picked out thirty different ranges of overtones covering the gamut of the human voice.

The same filters then broke down the second stream—a hissing sound—into thirty ranges. These different sounds in their proper proportion form all the sounds of speech. The Voder, astonishing telephone robot at the two World's Fairs, mixes sounds by finger controls.

Tricks with Speech

What Mr. Dudley was demonstrating was a circuit which analyzes a voice into thirty parts and then uses the results to control the proper amount of each of the sounds before they reach the loud speaker.

After letting his audience hear a test sentence before and after it had been broken down and put together, Mr. Dudley showed how it would sound when the buzzer alone was used and its pitch was held constant: a flat monotone like a chant. By releasing the pitch, so it could follow the speaker's voice, more naturalness was secured.

Normal speech was converted into a whisper when the hiss was substituted for the buzz. While the hiss is relatively faint, it is essential in discriminating between "church" and "shirts," as was then demonstrated.

Expression, said Mr. Dudley, is due to the constant swinging up and down of pitch as one speaks. When the swings are cut in half, the voice seems flat and dragging; when the swings are

(Continued on Page 334)

High Sensitivity Featured in New Weston Meter

The new Weston Master, showing the "High-Light" sca

A NEW photoelectric exposure meter, designed to meet the most critical demands of modern photography, has just been announced by the Weston Electrical Instrument Corporation, Newark, N. J.

Known as the Weston Master, the new Model 715 fills such fundamental requirements as (1) extreme sensitivity, for accurate measurements in low light; (2) increased light range, permitting measurements from 1/10 candle per square foot up to the extremely high value of 1600 candles per square foot; (3) accurate readability, provided by separate, automatically changing "High Light," "Low Light" scales; (4) a more selective and sharply directional viewing angle for measurements in high brightness, as well as for cine and color work; and (5) an increased number of exposure values (f: stops, shutter speeds, film speeds).

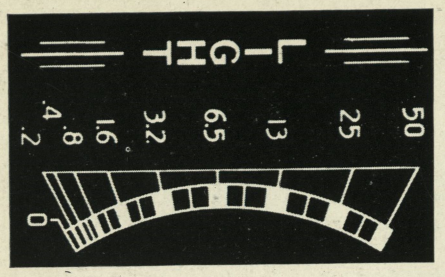
The extreme sensitivity of the new Master provides accurate exposure settings even in light down to the low order of 1/10 candle per square foot. In a room where, at night, a subject is seated near an average reading lamp, the brightness value of the subject will normally approach an intensity of about 5 candles per square foot.

High Sensitivity

Thus the Master exposure meter has over 50 times the sensitivity required for such measurements. For this reason, the Master is particularly adapted to use in the studio, or for other professional work, as well as for all amateur needs.

Of greatest importance, however, is the maximum readability which is provided by the new feature "High Light,"

For measurements in low brightness, the louvre is merely snapped down into the left position. The scale reads zero to 50 candles per square foot. For high brightness measurements the louvre is snapped in position to the right. The scale then reads zero to 1600 candles per square foot.



Full size view of the Master's "Low-Light" scale

"Low Light" scales, especially where measurements are being made in extremely low brightness.

When photographing is done indoors or elsewhere in low light the hinged louvre is merely snapped in position as described in illustration 1. At the same time, the "Low Light" scale automatically appears in the scale opening, calibrated from 0 up to 50 candles per square foot.

Covering a span of only 50 candles per square foot, rather than the entire light span from low brightness to high brightness as is usually the case, the Master's "Low Light" scale can have wide divisions and bold numbers; without the great congestion of confusing numbers usually appearing at either or both ends of the scale.

For this reason, too, the pointer on the Master moves a far greater distance for a given amount of light, so that the movement is easily seen and the light number always easy to read even when measuring in extremely low light.

When photographing is done outdoors, however, or in other high brightness the louvre is merely snapped in the opposite position. The "High Light" scale now appearing has a range up to 1600 candles per square foot. This top value permits readings in brightness far higher than has ever before been possible with pocket meters.

When the "High Light" scale is in use the viewing angle of the photocell is only 30 degrees. This limited angle excludes extraneous side and top lights, a feature essential for cine and color work and one which provides greater accuracy for all still work in high brightness.

Prepare for Future

The calculator dial on the Master also is of new design with bold, legible figures. It provides an increased number of f: stop and shutter combinations because of the great increase in the light measuring range of the meter.

The dial also provides for film speed ratings of from 0.3 to 800 Weston, to take care of possible future requirements of high speed films.

Ease of operating the film speed dial is assured by the button at the side of the dial. When the button is depressed the dial moves freely. When the button is released the dial locks in the desired position.

In designing the new Master, particular attention was given to the size of its component parts to assure the highest degree of accuracy and ruggedness. The entire instrument movement, including the jeweled bearings, the resistance coils and the permanent magnet is big and rugged—large enough not only to be precise, but also to stay precise in service. The photoelectric cell is hermetically sealed in a moisture-proof housing, assuring stability under all humidity and temperature conditions, in addition to assuring higher order of accuracy and longer life.

Streamlined, functional design has been employed in the new Weston meter to produce a compelling, modern appearance, and to make it fit comfortably in the natural curve of the hand.

The outer edge of the molded case is ribbed, so that the fingers will not slip when the meter is being used. The decorative chromium strip around the edge forms a sturdy eyelet at one end of the meter to which a silk ribbon cord is attached for convenience in carrying. The Master is priced at $24.

Al Gilks, veteran member of the American Society of Cinematographers and for a long time serving on the Board of Governors, has been elected secretary-treasurer to succeed the late Frank B. Good.

Ford Stages Contest

The Ford Motor Company is sponsoring the Ford exposition photographic contest for amateur photographers throughout the world. Four Ford V-8 De Luxe Fordor sedans, $2500 in cash prizes and 400 certificates of merit will be given away. The contestants are restricted to amateurs who visit the New York Ford Exposition at the World's Fair.

Details may be secured from either Ford or photographic dealers.

WALKER WINS MAY CAMERA AWARD

Director Frank Capra and Director of Photography Joseph Walker, A.S.C., take a few minutes off at Columbia's studio. The former is president of the Academy of Motion Picture Arts and Sciences and the Screen Directors' Guild. The latter is a member of the board of governors of the A.S.C. The two of them have been teamed on many popular pictures. Representative of these is "It Happened One Night." It was the late Will Rogers who remarked on one festive occasion, by the way, the title of that famous subject should have been "It Didn't Happen One Night."

JOSEPH WALKER, A.S.C., won the photographic honors for May in the Hollywood Reporter Preview Poll. The picture was Columbia's "Only Angels Have Wing," directed by Howard Hawks, starring Jean Arthur and Cary Grant. The picture also marked the return of Richard Barthelmess to the screen.

"Only Angels Have Wings" was one of the first pictures to employ Plux X film. At the time Walker was photographing this picture, none of the productions made on this film by other studios had been released for showing.

This meant that Walker was entirely on his own as far as knowing how Plus X would or should look on the screen. From the Hollywood Reporter Poll's verdict there would seem to be no doubt that he had found the film very much to his liking.

Walker went about the problem of handling the new film by placing a great deal of dependence on his exposure meters. He has several; some of which he has used continually for several years. He has seen a decided change in attitude toward meters on the part of the studio cameramen.

Attitude Changes

The ribbing that some of his associates indulged in at his expense when the exposure meter was new has given way to an entirely different attitude now that the exposure meter is universally used on practically every motion picture set in Hollywood.

The meter is a great help when several photographic units are working on a big production, as all of the various units can compare meter readings when working on similar sequences, thus keeping the basic lighting scheme at a given level.

A number of separate photographic units were used on "Only Angels Have Wings." They were, as Walker recalled them, Elmer Dyer, A.S.C., and Charles A. Marshall, A.S.C., who made the actual shots in the air. In charge of other units were Russell Metty, A.S.C.; George Meehan, A.S.C., and Andre Barletier, A.S.C., who photographed the very fine miniatures.

Cooperation Counts

Walker was quick to point out that a great deal of the credit for the photography for a picture of this type is due to the excellent personnel in charge of the special units and their close and willing cooperation with the main unit at the studio.

Walker is engaged at present in photographing Frank Capra's "Mr. Smith Goes to Washington," which is the latest of an unbroken line of Capra films photographed by him, among them "Lady for a Day," "It Happened One Night," Broadway Bill," "Mr. Deeds Goes to Town," "Lost Horizon" and "You Can't Take It with You.'

The association between the two men dates from 1927, at which time Capra joined Columbia, and it has been uninterrupted.

The writer was privileged to sit back of the camera for an hour during the making of the present picture and he was given a clearer understanding of the reasons underlying the success of Frank Capra. His close contact with the director of photography gives him an unusual knowledge of the difficulties that have to be surmounted by the camera and by the men behind it, and that knowledge brings consideration for the work of the men associated with him.

AIR CAMERA CLUB PAYS HONOR TO FREMONT HIGH

HERE is an action shot of the photographic "free-for-all" that followed the Columbia Camera Club's entertaining air meeting of Monday, June 5, at which the guest was a high school student, seventeen year old Mark Kauffman.

Each week during its quarter hour meeting over KNX and the entire Western network of the Columbia Broadcasting System, the club has as its guest an outstanding photographer. Mark Kauffman appeared as Commentator Maurie Webster's honored visitor, just nine days after his exceptional portrait of Mrs. Eleanor Roosevelt was published on the cover of Life Magazine.

In his endeavor to find the explanation for Mark's amazing prowess with his camera Maurie discovered that he attended the largest high school photographic class in the West. As a consequence, an invitation to attend the broadcast was extended to the fifty other members of the vocational photography unit of John C. Fremont High School in Los Angeles. They all came, armed with cameras, flashguns and copious quantities of film holders.

With Mark on the program, also appeared Clarence Bach, head of the class; Art Rogers, one of the class members who does all prep sport pictures for The Los Angeles Times; and Lillian don Vito, eighteen-year-old head of the school's portrait gallery. All four of them turned in top performances at the microphone, to the loud acclaim of their classmates when the program was concluded.

Each Monday night at 9:45 Columbia's Camera Club meets with Maurie Webster, who conceived the idea of the program, finding the entertaining, unusual and instructive stories about photography that have made the program an outstanding West Coast radio show. It has been designed not for the advanced amateur, but for his little brother—the box camera fan. He has found it an ideal place to learn more about photography, but, most of all, a source of inspiration to use his camera more frequently.

Proof of that fact is the club's membership list of six thousand listeners in the west who have written for membership cards in the club, and a great many of whom have listed their present camera equipment.

Enlarge Kodachrome Plant for West Coast Processing

With the construction of a new building in Hollywood the Eastman Kodak Company will bring to the coast additional service in the processing of Kodachrome film.

For more than a year 8mm. and 16mm. Kodachrome for amateur movies has been processed by Eastman in Hollywood. With the construction of the new plant, however, there not only will be greater facilities for handling the amateur movie film but inaugurates the processing of 35mm. Kodachrome used in miniature "still" cameras such as Kodak Retina, Kodak 35s and Bantams and professional (cut sheet) Kodachrome.

It is now necessary for still cameramen on Hollywood lots to send their 35mm. or professional (cut sheet) Kodachrome shots to Rochester for processing. This all takes time.

With the opening of the new plant in the early fall processing capacity will be more than doubled, thus assuring much faster service than heretofore obtainable.

Report on Preservatives

The Research Council of the Academy of Motion Picture Arts and Sciences has issued a comprehensive report on film preservatives available to the industry for treatment of release prints.

This report, which is being circulated for the information of the motion picture producing and distributing company executives and technicians, is based upon extensive tests conducted by the Council's Committee on Improvement in Release Print Quality.

Lafayette Branch Moves

After six years at 219 Central Avenue, the Newark (N. J.) branch of Lafayette Camera Corporation moves to its own building at 24 Central Avenue. Its exclusive occupancy of this building will provide two spacious sales floors, representing a three-fold increase in floor space, made necessary by the continued growth of this branch.

RCA Uses Academy Test

Cooperating with the Academy of Motion Picture Arts and Sciences in its efforts to raise the standards of sound motion picture reproduction in theatres, the RCA Photophone Division has arranged for its field service engineers in all parts of the country to utilize the new Academy test reel for judging sound quality.

Light moment during a recent radio meeting of "Columbia's Camera Club," at which the guests were, left to right: Art Rogers, student cameraman for the Los Angeles Times; Mark Kauffman, who made the cover of Life Magazine with his recent portrait of Eleanor Roosevelt; Clarence Bach, head of photography for John C. Fremont high school, where the young people study; Maurie Webster, CBS commentator who conducts the program, and Lillian don Vito, youthful head of the school's portrait gallery.

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ST. PAUL'S CLUB PUTS ON SHOW AT SECOND ANNUAL

THE St. Paul Amateur Moviemakers' Club held its second annual banquet in its home city at the Commodore Hotel June 6. Leading off the program was an address by Mayor William H. Fallon, who is a moviemaker himself. Then followed a list of five pictures.

The subjects shown were "Nite Life," by J. Kinney Moore; "Beyond Manila," W. G. Hahn (with musical transcription); "Shadow's Bones," Frank Gunnell; "Still Waters," Fred Ells (with musical transcriptions); "Nation's Builders," James A. Sherlock (with musical transcription).

One of the features of the evening was singing on a "community" basis. Mrs. Edna Marshall, the better half of Secretary Ford Marshall, was the author of the four subjects. The entire group gathered around an 8mm. projector as Mrs. Marshall played the piano. The songs were on positive film and were shown a line at a time, with a bouncing ball to count out the time. One of the songs was "Bei Mir Bist Du Schon," the words for the occasion being:

Oh here's where we learn
How money will burn
When we start to buy movie equipment.
How soon it will go
I guess we all know
When the postman says,
"Here's another shipment."
It's more than worth it all
When we make pictures well,
But when they don't turn out—
Well, then, it's surely . . . Hell!
We know how to splice,
Make titles so nice,
And we learned just what
A leader STRIP meant.

In the little program issued for the banquet we find this acknowledgement:

"We acknowledge with gratitude the courtesy of William Stull, A.S.C.; Dr. F. R. Loscher and Milton R. Armstrong, former president and secretary respectively of the Los Angeles 8mm. Club, who donated their time and talent to re-record especially for our club the musical transcriptions which accompany 'Nation Builders' and 'Beyond Manila.'

"The original recordings, many of them imported from Europe, are from Mr. Stull's private library."

The two former 8mm. club officers contributed their own recording outfit and their time in making electrical transcriptions of the recordings used by the third member of the trio for the program in which the two contenders for the American Cinematographer's honors competed last year.

The St. Paul club is making these records available to any amateur movie organization which desires to use them in connection with the films. Such may address Secretary Ford Marshall, 1828 Eleanor street, St. Paul. The president of the organization is Kenneth Hezzelwood.

In January, 1937, eighteen men formed the 16 and 8 Cine Club. In the following October the club changed its name to the St. Paul Amateur Moviemakers Club. In the same year the club produced a film for the St. Paul Public Safety Department, "Spare the Evidence," which has been widely used as a teaching film in local and national police work as well as by the Federal Bureau of Investigation. During the past year the club has engaged in producing a documentary motion picture record of the St. Paul School Police which will be finished in the near future.

Four members of the St. Paul Amateur Moviemakers' Club examine the turntables and amplifier. They are, left to right, L. L. Harmon, E. E. Baumann, Lloyd Oliver and Louis Finn. Courtesy St. Paul Pioneer Press.

Father Hubbard Recording Eskimo Music and Chants

THE vanishing native music and chants of the primitive Eskimo race are to be preserved on phonograph records and motion picture film by Father Bernard R. Hubbard, famed "Glacier Priest," who will record them for RCA Victor this Summer during his eleventh Alaskan expedition. They will be released to the public as soon as possible.

Utilizing an RCA Victor portable recording unit and 100 12-inch RCA recording discs, Father Hubbard will make the historic recordings in the isolated settlements of the Eskimo tribes.

In addition to being released as phonograph recordings, the strange music and chants, never before heard outside the vast reaches of the far North, will be "dubbed" on motion picture film for use on a lecture tour of the United States which the priest plans to make when he returns.

The recording unit is a newly developed instrument, hardly larger than an ordinary suitcase. Recording, amplifying and playback equipment is all included in a single case. It records on either ten-inch or twelve-inch discs.

Capt. Mulkey Returns East After Eight Months Study

Captain Dwight L. Mulkey of the Signal Corps of the United States Army, who has just completed an eight months' course of study in motion picture production under the auspices of the Research Council of the Academy of Motion Picture Arts and Sciences, left Hollywood last night to return to Washington, where he will be engaged in the production of army training films.

While in Hollywood Captain Mulkey spent some time in each technical department of each studio studying actual production procedures as well as investigating the manufacture and operation of sound recording equipment, motion picture cameras, film, and other equipment and supplies used in the studios.

Under the present War Department Motion Picture Training Film production schedule approximately twenty reels of training film are produced each year.

The next officer scheduled to take the training course is First Lieutenant Harry J. Lewis, who will arrive in Hollywood from the East early in September.

British Cinematographer Talks of Hollywood

By FRED YOUNG, F.R.P.S.

DURING the many years I have been a reader of The American Cinematographer I have from time to time read and enjoyed articles in which oustanding members of the A.S.C. have discussed their experiences making pictures in England. Knowing these men, often from working in the same studio with them as they made their productions in my country, I have been impressed by the fair-mindedness shown in their descriptions of Britsh studios and conditions.

Today I find myself in a similar position, as I have been asked to write something about my impressions, as a representative of Britain's camera profession, of making a picture in Hollywood.

Although as this is written, the production is by no means completed, I feel that it has been a privilege and a pleasure to be able to take part in the making of a Hollywood production, and especially to be associated with Joseph August, A.S.C., in photographing Anna Neagle in the Herbert Wilcox-RKO production "Nurse Edith Cavell."

The friendship and cooperation everyone has extended to me could not have been bettered had I been working at home in an English studio. That friendliness will be remembered long after much of the rest of my Hollywood visit is forgotten.

Technical Resources

From a less personal viewpoint the dominant impression a British visitor gets as he works in Hollywood is the—to us—incredible abundance of Hollywood's technical resources.

By this, I do not wholly mean equipment or physical facilities, for in England now we have, as the A.S.C. members who have worked there have pointed out, quite a number of studios as well equipped and nearly as large as those in Hollywood.

We have many excellent directors of photography, sound engineers, art directors, and the like. But we are not so fortunate in our supply of trained technicians of the lesser grades—operative camera crews, electricians, studio carpenters, property men, "grips" and the like—to back up the efforts of our key technicians.

We have them, but none too abundantly; and as a rule few of them have behind them the long experience of their Hollywood counterparts.

This is in a great measure due to the way our industry in England has developed. For a long time, as is well known, it struggled along with little or no encouragement. Then a few years ago, it suddenly expanded.

The expansion was so rapid that it could be quite truthfully called a "boom," and, like most overrapid booms, it was followed by a near-panic while the industry consolidated its gains.

As a result, we have not been able to offer really consistent employment even to our more experienced men, still less to the many less experienced ones.

Crew Breaks Up

Too often, at home, you will start a picture and, when you come to assemble the crew you had on your previous one, you will be unable to do so.

The operative may have gone to another studio; the young fellow you had just begun to get trained to be a satisfactory assistant will have dropped from sight, while your electrician may have grown discouraged and gone back to his old job outside the industry—where paychecks came more steadily.

And you will have to start in afresh to train a new crew from relative newcomers.

Here in Hollywood it is so different! It seems almost incredible to learn that if any of my American friends finds it for any reason impossible to use his regular crew on a new picture, he can virtually choose blindfolded from the many men available for each job—and find himself with a dependable crew, the youngest of whom will have had five, ten or even twenty years of studio experience.

It is equally impressive to see how the same is true on the other side of the cameras, as well. Our picture, "Nurse Cavell," calls for a good number of bit players and extras to represent German soldiers and officers, French and Belgian soldiers and villagers, and British nurses, soldiers and civilians.

At home, with the exception of the English parts, we might have some difficulty finding enough convincing-looking Prussians, Belgians, and the like for our requirements, even in the larger supporting parts.

Here a simple telephone call brings us as many as we need, all of them not only perfect "types," but thoroughly camerawise.

I am sure some of my friends at home will doubt me when I say it would be the same had we needed Chinamen, Polynesians or Hindus in almost any number!

As far as photo-technical equipment is concerned, there is very little to choose between Hollywood and one of the newer British studios.

British Advantage

In some respects, I think the newer British studios may have a bit of an advantage in the fact that they were either completely built from bare ground, or at least greatly expanded within just the last few years, while the studios in Hollywood were built and basically equipped many years ago.

In lighting equipment we in England have the same lighting equipment for black-and-white and Technicolor that is familiar in Hollywood. In some cases we have more of the newer lamps than you, because our studios have had to obtain a complete set of lighting equipment all at once, rather than getting a few new units here and there to replace or supplement old but still useful lamps.

Stage space and sets are pretty well on a par on both sides of the Atlantic. In fact I believe the Denham studio has one stage as big or bigger than the largest in Hollywood. There are minor differences in such details as power distribution and set-platforming, but, in general, once you get on the stage the only thing to tell you whether you are in Hollywood or in England would be the accents of the stage crews.

There is one phase, however, in which Hollywood seems definitely ahead of our British studios. This is in the matter of cameras.

We use much the same type of cameras, it is true—in most instances Mitchells, though in studios where French or German cinematographers have been active there are De Bries, while a few of the smaller plants use the less expensive, British-built Vintens.

Cameras Scarce

But our studios are not nearly so plentifully supplied with cameras as is common in Hollywood. Some of us have tried to argue that this was false economy, but without much success.

Here in Hollywood, if some accident happen to the camera you are using, you can have another one, equally dependable and of identical design, on the set in a matter of minutes. If a scene should require it, you could have five or

(Continued on Page 334)

SHOOT THREE DIMENSION PICTURE WITH POLAROID

AS absorbing as the three dimensional movie itself is the story back of the first full polaroid motion picture ever to be made, which is being shown to thousands daily in the Chrysler Motor Building at the New York World's Fair.

A total of thirty-six days was required to "shoot" the thousand feet of film that runs for some twelve minutes; and 10,960 different "frames" were photographed by Loucks and Norling, in creating the picture that literally makes audiences gasp.

This audience reaction results from the fact that the picture leaves the screen and projects itself in front of each visitor; thus a machine that moves forward in the picture seems to come so near that people in the audience instinctively duck or move backward, to avoid being hit by the illusory threat of impact.

All visitors viewing the film wear special polaroid lenses, which are given them as they enter. Through these they see actual operations in the half-mile long Plymouth plant in Detroit, with stop motion pictures that show a Plymouth magically assembling itself without the aid of human hands. The various parts of a Plymouth car, numbering more than 15,000 altogether, come waltzing in together or separately, apparently under their own power, to take their proper places in engine, chassis or body —all in carefully synchronized step to the beat of the music.

Make Wires Invisible

For taking the picture three special stages were erected. On these stages each car part had its every different movement separately photographed. Scenes in which parts move along the floor involved no great difficulty—devices as simple as a big wad of chewing gum were adopted to hold them in position after they had once reached their place.

But to make a heavy motor or an entire body sail in through the air raised real technical problems. Overhead trolley tracks were built from which to suspend these parts on thin steel wires. To make these wires invisible, they were plucked like a banjo string at the moment of being photographed, the rapid vibration serving to prevent their registering on the film.

The order of the scenes in the film follows exactly the actual routine in the plant. The producers realized that the Plymouth engineers had devised the order of the assembly of the various parts on the assembly line in such a way that the whole car could be brought together with a minimum expenditure of effort.

Thus Loucks and Norling followed this standardized assembly routine religiously. Every foot of film was assigned to its own particular "frames" in advance of the shooting. This enabled the producers to discard the ordinary cutting room practice of film assembly.

Similarly, the music was composed and its score adjusted to the footages before shooting commenced. The result is that the inanimate objects in the picture move in exact time with the musical beat.

One of the most successful musical themes in the picture—judging by audience reactions—is an adaptation. This is the scene where the newborn chassis arises on its rear wheels to peer around the world and sing, "Where, Oh Where Can My Body Be?" The tune used by the car is the familiar "Where, Oh, Where, Is My Little Dog Gone?"

Seen With Polaroid

To create the three-dimensional effect, the scenes were photographed by a camera with two "eyes," and two synchronized projecting machines are used in the specially built theatre in the Chrysler Motors Building.

Visitors able to take their eyes from the exciting scenes shown on the screen can note the two beams of light carrying the images from the projection booth to the screen, where they are "scrambled" for the eye that views them without Polaroid lenses.

With the aid of Polaroid a clear separate picture is shown to each eye, just as each eye sees a separate picture in real life. It is the combination of these two disparate pictures in the brain that creates the third dimensional sensation. The old fashioned stereopticon was an attempt to use this principle, and it created pictures with depth of background.

It is now possible for the first time, by the use of polaroid material, to obtain also depth of foreground. This is the reason the pictures seem to leave the screen and enact themselves directly in front of each member of the audience. The screen in effect becomes an open window, through which the actors, animate or inanimate, move and fly back and forth seemingly at will.

Polaroid film looks like slightly darkened cellophane. Unlike cellophane or any other material, it contains 1000 billion invisible crystals per inch. These crystals change the shape of the light vibrations that pass through. Light comes in like a rod, goes out like a ribbon.

In projection, two films are thrown on the same screen through polaroid filters, so turned that the picture for the right eye is made up of ribbons running from side to side, while the picture for the left eye is composed of ribbons running vertically. The polaroid spectacles worn by the audience have their ribbon slots arranged to correspond, so that each eye sees one picture only.

INSTALL TWO THEATRES IN FAMED FILM LIBRARY

ONE of the most interesting features of New York's new Museum of Modern Art Building is its famed Film Library, where the story of the development of the motion picture industry from its struggling beginnings to its present high status is preserved on movie film.

In the ultra-modern Museum quarters, at 11 West Fifty-third street, two small theatres have been constructed for showing the valuable collection of films to visitors for educational, non-commercial purposes. The films provide a complete history of the industry's progress from the famous "The Execution of Mary Queen of Scots" (1895) to the present day. Historic films from several European countries are also included in the collection.

To present the sound films in the collection, the Museum authorities have installed streamlined RCA Photophone sound reproducing apparatus in both theatres. The smaller auditorium, used by the Museum staff for classifying and editing films, and for small lecture groups, is equipped with a small sound reproducing system which has been in use for only a short time in the old Museum building, and was moved to the new location.

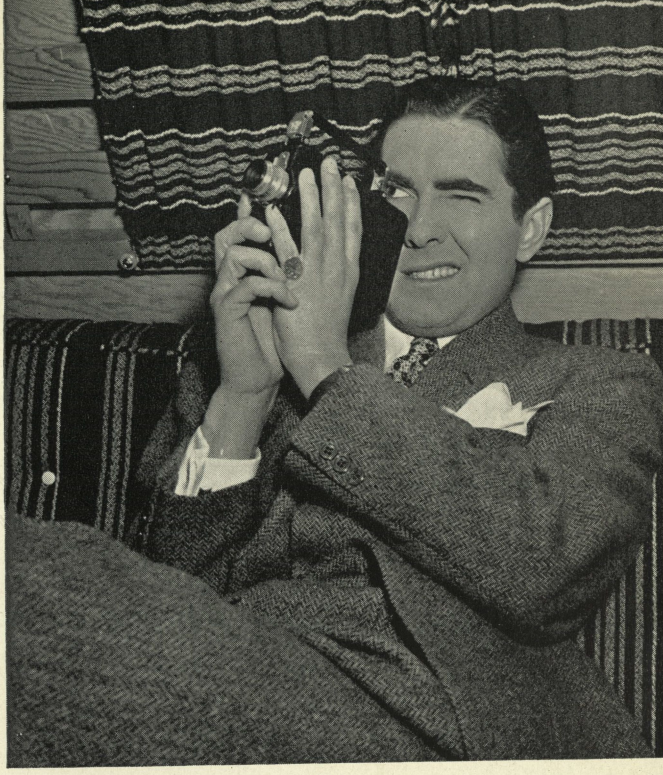
The larger auditorium has, besides a new equipment for sound-film reproduction, an RCA public address system for use by lecturers.

In both projector installations, special drive equipment has been installed to permit variation of film speeds from 60 to 90 feet per minute to accommodate the varying speeds of the early pictures as well as the standard speeds of modern films.

ONE of the welcome visitors at the office of this magazine during the last month was Henry L. Washburn of Santa Cruz, Cal., a man who makes good movies because he likes to make em . . . and incidently one who enjoys giving pleasure by showing them to his friends—naturally better if the subject is one from his own camera but anyway from some one else's if he can obtain it for them.

TYRONE POWER'S CAMERA RECORDS ANDES

By WILLIAM STULL, A.S.C.



A TALL, handsome young fellow moved purposefully about the portrait gallery of the Twentieth Century-Fox Studio, moving "broadside" lamps and spotlights into place to illuminate a row of wooden letters arranged against a gaily-colored cloth background.

A few feet away stood a magazine-type 16mm. camera on its tripod. If he weren't quite so coatless and dishevelled, I thought, I'd say he was Tyrone Power. But I know Ty isn't supposed to be working today—and besides, who ever heard of a movie-star coming back to the studio to fool with home movies on his day off?

Closer inspection, however, proved that this perspiring amateur was indeed Tyrone Power, obviously having the time of his life trying to get just the right lighting for his private job of title-making.

"Yes," he admitted, "I fool around a bit with 16mm. and have a lot of fun doing it. But strictly in an amateur way: I've been around the studios long enough to learn the difference between even a good amateur and a professional cinematographer like Pev Marley, Leon Shamroy and the other A.S.C. boys, and I know mighty well I'm only in the amateur class!

"Right now I'm spending most of my spare time trying to get the film I shot in South America whipped into shape. I've got it cut and put in enough titles so it comes somewhere near making sense—and I'm trying to get the rest of the titling job finished up as fast as I can.

Simple Cloth Background

"As you see, I'm using these cut-out wooden letters for my titles. They've little pins sticking out of their backs, so you can make them stay put on any sort of background you want.

"For some of them, I'm using a simple cloth background. For others — those that tell where I went—I used a map of South America, putting the letters over the appropriate spots on the map.

"I've been having lots of fun lighting these three-dimensional letters! Take a spotlight, you know, pulled down to a good tight beam, and you can get some swell shadow-effects with back-lighting and cross-lighting. And did you ever try using colored gelatins over some of your lights? With these white wood letters, you can get some interesting color effects in Kodachrome that way.

"Sure, I do almost all my filming in Kodachrome. Why not, when it makes the picture so much more interesting than black-and-white? And down there in South America, everything is so colorful it would be a shame to use anything but color for your movies.

Travels Light

"Yes, I suppose I'm lucky to have a chance to use this studio lighting equipment. Whenever I have the opportunity, I come over here to the gallery and the boys let me borrow their lamps. Sometimes, on week-ends and the like, they let me take a couple home with me so I can experiment with titles, closeup lighting and portraits.

"And speaking of lighting, I ran into something queer down in Chile. Most deceptive light conditions I ever heard of; the light just never behaves the way you expect it to. When the sun is out and shining brightly, your meter doesn't read half as high as you feel it should.

"Then when the sun slips behind a cloud and you pull the old meter out, you get another surprise, for it reads a lot higher than you think it has any right to.

"Actually, there's precious little difference between the intensities of sunny and cloudy weather there. No—it wasn't up in the mountains, but down along the seacoast, where you'd expect to find things pretty normal.

"Since I made a lot of that South American trip by air, I traveled pretty light. My camera outfit consisted of my magazine Cine Kodak, a couple of thousand feet of Kodachrome, in the tropical packing, my meter, and the Exakta I use for stills.

"I just learned something interesting about filtering with the Exakta, by the way. A few weeks ago I took a little vacation in the snow at Sun Valley; of course I took the cameras. Now ordinarily, I use a red filter for most of my black-and-white shots; I like the crispness and the dark skies you get that way.

"But working in the snow, I found you get better results with a much lighter yellow filter—it lets you get into the shadows better, and balance your exposures so the snow looks a lot more natural.

"I get a lot of fun trying out different ideas, and finding out things like that for myself. Of course all the cinematographers I work with, and their crews as well, are swell about giving me hints on this and that—and you'd be surprised how much you can learn about shooting Kodachrome from watching the way they shoot a Technicolor picture like 'Jesse James.'

Marley Helped Much

"But a studio cameraman has such a responsible job, and is kept so busy at it, that I hate to bother him with my amateur problems.

"Pev Marley, though, has helped a lot outside of regular working hours. You see, Pev is one of my closest friends—close enough so that when I show him my films, I know his criticisms are meant constructively.

"And how he can find flaws in even my 'pet' scenes! When I turn out a shot he can't rip apart critically I feel as proud as though I'd won the Academy's Cinematography Award!

"How did I get started in 16mm.?

Well, it began a number of years ago, when both 16mm. and I were pretty young. I got a camera, and shot up as much footage as I could afford, with results that today seem pretty horrible. Finally, I hit a spell when jobs and I weren't on speaking terms.

"It got to a point where I had to take my choice between selling the camera, and eating—and keeping the camera and not eating. So I got rid of the camera. But as soon as things began breaking for me, I got another camera!"

At this point I had to leave, to continue the business that brought me to the studio. But later I encountered Peverell Marley, A.S.C., who had a lot more to say about Power's cinematography.

"Listen, Bill," he told me, "don't let that chap fool you when he says he 'just fools around' with a camera. He's just about the best cameraman that ever held a card in the Screen Actors' Guild! Ty may say he does things in an amateur way—and both you and I have seen enough amateur films in the American Cinematographer's Contests to know how good a really good amateur can be—but Ty's photography is edging mighty close to the professional class!

"The boy knows lighting and exposure, and he's got a real eye for composition. In addition, he knows how to pick interesting subjects, and how to make them into a really interesting picture.

"You know, he shot 2000 feet of Kodachrome on that South American trip: well, he's edited that down to a neat 1500-foot picture, one that is photographically excellent, and that moves along nicely.

Has to Buck Crowds

"You've got to give him extra credit for turning out a job like that, just because he is Tyrone Power. That one little fact starts him off with a big handicap in making any sort of a travel-film. You or I could go down there and shoot anything we wanted, and nobody would give a hoot.

"But with Ty it's different: let him go out on a quiet prowl for pictures, and sooner or later somebody recognizes him —and the crowds start coming. When you're the center of attraction for a crowd of several hundred enthusiastic fans, you can't do much picturemaking!

"But when he could manage a little shooting unobserved, he really went to town with his camera. He has one sequence in his picture, showing the customs in a quaint little Indian town in Chile, with an unpronounceable name, that is fine.

"He really managed to get local color into it—the native markets, the religious processions on a feast-day, with the priests and acolytes gathering outside the village church swinging censers, all photographed with an eye for first-class pictorial effect.

"And whenever he has a chance to get such things he knows the value of shooting plenty of closeups to make the story complete.

"He probably wouldn't tell you this, but here's an incident that really shows how enthusiastic he is about his movie-making.

"Ty crossed the Andes by air. Getting over those mountains, the airliners have to fly at altitudes well over 20,000 feet. That's high enough so the passengers need oxygen to supplement the rarefied air.

"Each passenger has his own oxygen tank and 'breathes' through a rubber tube he is supposed to keep in his mouth while the plane is up at that four-mile altitude. Without this help, the air is too thin to breathe, and you can lose consciousness in a very few minutes.

"Well, flying over the Andes, even that high, the mountains are pretty close to you. And those peaks are spectacular picture material.

Shooting at 20,000 Feet

"Ty knew this, and had arranged with the pilots to let him come forward into the 'office'—the pilot's cockpit in the nose of the ship—and get some pictures of the most interesting stretches.

"This meant he had to leave the security of his oxygen tank behind, and take his chances in the thin, weak air. But he wanted those pictures, air or no air! He was willing to take the chance.

"At the appointed time, Ty moved forward and got his cameras into action, Kodachroming the backbone of South America.

"All of a sudden, he found himself beginning to get dizzy. Things began to blur as he squinted through the finder. But he kept on shooting. Finally, after he had bagged a shot that insisted on dancing around the finder like an impressionistic montage, and his knees began playing 'rubber-joint' tricks Leon Errol couldn't beat, the pilots ordered him back to his seat—and his oxygen tank.

"He didn't want to go—he still had plenty of film and the scenery was getting more impressive all the time—but the pilots insisted, strenuously, and after all, they were in command of the ship.

"Later, after they had landed, the Chief Pilot told Ty that if he'd delayed getting back to his oxygen a few seconds more, he'd have been out as cold as though he'd stepped into Joe Louis' Sunday punch!

"When you find a chap who will voluntarily turn his back on the security of his supply of safe, breathable air and risk 'passing out' in air that's too thin to breathe—knowing beforehand what its all about—and do it all for the sake of getting a few pictures, you've found a fellow who is a real, dyed-in-the-wool cinematographer!"

MINES BUREAU REVISES FOUR PETROLEUM FILMS

WITH the aim of keeping its extensive motion picture film library dealing with the mineral industries abreast with scientific and technologic attainments, the Bureau of Mines, Department of the Interior, has just completed the revision of four petroleum films.

Although the original titles remain unchanged, the revised films make available for visual-education work a fund of new information pertaining to the manufacture of gasoline, the manufacture of lubricants, the proper uses of lubricants in the operation and care of automatic equipment, and a comprehensive story of the evolution of the oil industry. Each of these four films has been revised through the financial assistance of the original cooperating companies.

Bureau of Mines film No. 99, The Story of Gasoline, takes the observer on a tour through a modern refinery and shows intricate equipment required to convert oil into motor fuel by the proper use of heat and pressure. Some exceptionally fine photography shows how gasoline is used to extend commerce and add to the pleasure of recreational pursuits.

A somewhat similar treatment is given film No. 120, The Story of Lubricating Oil, in that it shows how lubricating oils are made, and how paraffin wax—a detrimental substance in lubricating oils—is transformed into useful products.

No. 151, Automobile Lubrication, is a one-reel film that should be used extensively in educational work by those concerned with modern methods of lubricating automobiles.

Film 153, Evolution of the Oil Industry (revised), was recently given its premiere showing at the World-Petroleum Exposition, Houston, Texas. Whereas the former film of this number contained three reels, the new film has been lengthened to four reels in order to show many new developments in petroleum technology in all its branches. None of the important allegorical or historical episodes has been deleted in revising the film.

Copies of these films, which are all silent, are available in 16mm. and 35mm. size for exhibition by schools, churches, colleges, civic and business organizations, and others interested. Applications should be addressed to the Bureau of Mines Experiment Station, 4800 Forbes Street, Pittsburgh, Pa. No charge is made for the use of the films, although the exhibitor is expected to pay the transportation charges.

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AGFA 16 MM. REVERSIBLE PLENACHROME AND PANCHROMATIC FILMS

Agfa

Time and Temperature Versus Test for Negative

By Irving Millard, Night Superintendent
Cinema Laboratories, Inc.

Reprinted from
Agfa Motion Picture Topics for May-June

ALTHOUGH the laboratory processing of pictorial motion picture negative film has to a certain extent been standardized in recent years by the imposed limitations of composite sound and picture printing, there still exists a considerable difference of opinion as to the best methods to employ within those limitations to produce uniformity of contrast and density and at the same time to obtain in the developed negative the fullest measure of the artistic and dramatic effects created by the cinematographer.

In general, there are in use today two basically different methods of negative development, each of which has its advantages and advocates and, inevitably, its disadvantages and its opponents.

These methods are the "time and temperature" method and the so-called "test system" of development.

Time and Temperature

The present article is not intended as a vehicle for partisan arguments for or against either of these systems, but instead to serve the more useful purpose of providing a convenient summary of the facts regarding each, together with an impartial discussion of features which under practical conditions have been found to be assets and weaknesses of each.

Under the time and temperature system negative is processed day by day at an established time of development, in solutions maintained at a constant and favorable temperature.

Solution control is generally exercised with the aid of sensitometric and visual solution film tests processed at regular intervals. Uniformity of solution strength is maintained by chemical manipulation.

Test System

Specifications established by experience as representing the most desirable standards for the proper development of normally exposed negatives are rigidly observed. This system therefore offers the cameraman a theoretically constant factor of development to which to peg his manipulations of lighting and exposure.

Differing radically from the time and temperature system of development, the test system is based upon the preexamination of test strips which serve as a guide by which the developing time for the production negative may be altered in order to coordinate more closely the factors of negative exposure, density and contrast with the requirements of the positive printing scale.

In this method solution temperature and strength are held constant, but the developing time is altered to suit the needs of the individual negative. Solution maintenance is effected by substantially the same methods as used for this purpose under the time and temperature system.

This system therefore offers the cinematographer a certain measure of protection when he is working under unusual or difficult conditions, and theoretically allows a welcome flexibility.

The advocates of each of these systems naturally take pains to add to these sometimes theoretical arguments facts of a more practical nature with which to uphold their contentions. Among those most justifiably advanced by exponents of the time and temperature system may be mentioned the following:

First, the possibility of reproducing without alteration or distortion an exact monochrome replica of the photographed scene.

Second, elimination of the need for making tests which are inevitably more or less costly to make, and which can in many cases be inaccurate or misleading.

Third, reducing by one (the test reader) the variables interposed between the cameraman and the screen.

Fourth, the maintenance of an unvarying standard of negative processing to which the cameraman may adjust himself, and thereby be able to secure in a direct line the desired contrast and mood in his screened picture.

Theory vs Practice

In theory, the writer has always held that the time and temperature method places the responsibility for negative uniformity both as to contrast and as to density in the hands of the cinematographer, where it rightfully belongs.

Reducing the number of variables between his work and the screen is also a step in the right direction, since he alone possesses the complete knowledge of the effects, mood and visual tempo for which he is striving—a knowledge which in the existing structure of production is not readily available to the laboratory.

In practice, however, certain conditions tend to offset some of these theoretical advantages of the time and temperature system, as the adherents of the test method are at pains to point out.

First among these is the virtual impossibility of maintaining a standard of absolutely consistent processing. While, in comparison to what was common only a relatively few years ago, we are justifiably proud of the consistency of modern methods and machines, it must be admitted that this consistency is relative, rather than absolute, and that in methods based on consistent solution strength, temperature and machine speed, sufficient errors, minor in themselves perhaps, but cumulatively of noticeable magnitude, can occur.

It also has frequently been pointed out that this system of development lacks the flexibility which would enable the laboratory to aid the cameraman by making compensation for the inevitable small day-to-day variations in his lighting and exposure. In addition, such a system utterly lacks the flexibility to

help him by under or over developing negative photographed under unusual and abnormal conditions.

Tests—Pro and Con

Laboratories employing the test system point especially to the following facts as advantages obtainable by that system:

First, the proper making and use of tests affords very considerable protection insofar as the printing scale is concerned to the cinematographer forced to shoot under abnormal or subnormal conditions.

Second, it affords similar protection to cinematographers who by habit light in either a dangerously low or a dangerously high key.

Third, it permits absorption of the effects of the inevitable slight solution differences which may exist from day to day. The same factor similarly aids in smoothing out the individual cameraman's day-to-day variations in lighting and exposure previously referred to.

These advantages are equally beneficial to the cinematographer working on a major studio's top-budget productions and to his fellow cameramen working under the restrictions of short schedules and budgets.

If anything, they can be more valuable to the latter, as such conditions often necessitate long and fatiguing hours and occasional disregard of ideal photographic conditions.

It is the function of any laboratory when faced with such conditions to offer all assistance possible, and it has repeatedly been proved that in such circumstances forced development of underexposed negative, or retarded development of overexposures to a point permitting adequate printing densities, even if at some loss of perfect photographic quality, has been beneficial to the screen appearance of the picture as a whole.

Time Required

On the other hand, it must be pointed out that the tests involved require valuable time and effort if they are made properly, and even so can under modern conditions prove misleading.

Consider, for instance, a light-effect shot in which a strong beam of light is to simulate sunshine coming through venetian blinds which are to be closed during part of the scene, but are opened later in the shot.

A test made for the initial lighting, with the blinds closed, will give no indication of the exposure values when the blinds are open, and vice versa, so that it is unpleasantly easy to develop the scene incorrectly on the basis of such a test.

The same applies with equal force and greater frequency to the modern moving-camera shots, in which the camera may dolly through a very considerable range of lightings and exposures within a single shot.

The test system, too, if carried out on a proper scale, demands an intimate cooperation between the cameraman and the laboratory if it is to function to advantage. Such cooperation, under modern productions conditions, is difficult, if not impossible, to obtain.

On the other hand, in most laboratories today the need of frequent tests can be made, and is minimized by the fact that after the initial tests have been made the laboratory can establish a normal average developing time for each cinematographer's negative.

Thereafter, in normal production, tests need be made only as a safeguard or check comparable in a way to the laboratory's own visual and sensitometric tests, and of course as a means of guiding the laboratory when any unusual conditions have been faced on the set.

Practical Conclusions

In conclusion, it may be remarked that there exist certain practical aids which may be utilized by cinematographers working under either of these methods of negative processing, and which will help in overcoming the weaknesses of the processing system involved.

An outstanding weakness of the time and temperature system is the fact that it subjects all negative, regardless of lighting or exposure, to a fixed standard of development. The cinematographer operating under this system of negative processing can therefore protect himself to a degree by selecting a negative emulsion having the maximum exposure-latitude characteristic.

In this way he can expect the film itself to aid in compensating for any unevenness of exposure levels.

In this connection, too, it must be pointed out that the intelligent use of a modern photoelectric exposure meter can be of tremendous aid to the cameraman in maintaining on his part a consistency of lighting and exposure values which will match the standardized negative developing procedure.

It is significant that the two organizations making the most extensive use of photoelectric light-measuring devices both use the time and temperature method of negative processing.

Meters No Royal Road

Cinematographers whose negative is processed in plants using the test system can anticipate that their negative, in the interest of maintaining consistent printing densities, may at times be over or under developed to some extent.

They will obviously find it an advantage to select a negative emulsion which offers a wide latitude in development.

Since consistency in exposures will obviously minimize not only the number of tests required, but also the laboratory's manipulations of the developing time, these cinematographers, too, will find the proper use of photoelectric exposure meters beneficial.

In this connection, however, it is well to echo the statement frequently made by other writers, that these meters must be used with intelligence or not at all.

In general, it can be seen that as practiced today, both the time and temperature and the test system of development offer worthy advantages, and that if the cinematographer will make intelligent use of the aid offered by modern materials and methods he can be sure of excellent results regardless of which system is used in the processing of his negative.

And it may be reasonably concluded that the gap between these different and much-discussed methods is in practice slowly but surely lessening.

B & H EXTENDS TO WEST PRESERVATIVE METHOD

THE Peerless-Vaporate film treatment which has been offered by the Bell and Howell film laboratory throughout the middle west for the last two years is now available also from the Hollywood laboratory of the company. A complete vaporating installation has been placed in the Bell and Howell Hollywood headquarters.

The interest in this process is all the greater in view of the recent report issued by the Research Council of the Academy of Motion Picture Arts and Sciences on "Release print film preservative tests." In the recommendations the committee of experts stated:

"These tests indicate that because of the fact a film preservative contributes to better projection as well as longer life, all release prints should be given some treatment before being placed in use." Earlier in the report the conditions for preservative treatment were described as follows:

Prevents scratches in new or green emulsion.

Thoroughly lubricates the emulsion so that it will not adhere to any part of the projector.

Impregnates the gelatine with a fixed chemical which will not be dissipated by the intense heat of the projection lamp, but which will take the place of the moisture that is withdrawn to thus prevent warping and buckling.

Retain the film's pliability indefinitely.

For the treatment of 35mm. film a special installation has been made by Bell and Howell with the Jackman Process Corporation of Burbank, Calif., which is developing new type of color film, the preservation of which is essential to continued enjoyment of the high initial quality of the release prints. Extensive new laboratory machinery of other types is also being developed for this new organization by Bell and Howell. this new organization by Bell and Howell.

DYE TRANSFER ENTERS COMMERCIAL FIELD

By IRA B. HOKE

THIS month the Eastman Kodak Company announces the coming opening of its west coast plant for processing Kodachrome in the larger cut sizes.

Simultaneously the Color Process Laboratories, 837 North Fairfax avenue, Hollywood, headed by W. L. McLaine and Friend F. Baker, swings into full production on its process of color print enlargement from Kodachrome transparencies.

A pioneer in the transfer of dye images, Baker made his first experiments with the process in 1923 in partnership with Roy Hunter. His research at that time consisted in the transfer of three and four color separation prints, but as that was in the pre-Kodachrome era, a camera of the one-shot type, carrying four plates, was designed to furnish the negatives.

Eastman Kodak Company co-operated with the experimenters in 1924 by cutting a special base film made for color work, to sizes suitable for use as matrix stock. Then, for lack of interest on the part of commercial photographers in the production of separation negatives, Baker laid aside his plans until 35mm. Kodachrome entered the amateur field. He then continued his experiments and allied himself as partner with William L. McLaine.

Modern Process Selected

Picking one of the best known of the various processes, they developed and built special equipment for scientifically making dye transfers by the Eastman Kodak Company's "wash-off" method.

Later, like an answer to a prayer, came Kodak's Kodachrome in the larger professional cut film sizes. These larger films afforded the photographer a color film that not only could be exposed in a professional view camera offering the tremendous advantages of rising and falling front, horizontal and vertical swing back, double extension bed and reversible back, but also produced an image so clear and well defined that it was perfectly adapted for transfer to paper.

These larger sizes of Kodachrome, however, made it necessary for Color Process Laboratories to design, construct, and install much additional equipment, so that every step in the processing of prints could be handled with the utmost precision and control.

With this new equipment they are now making prints in 8 x 10, 11 x 14, 14 x 17, and 16 x 20 inch sizes, that are as nearly perfect reproductions of the originals as can be made by any known process.

Process No Secret

Baker realized from his early experiments in color transfer that consistently successful dye image prints could be made only under the most severe laboratory exactness, not within reach of the average commercial photographer.

With this past experience in mind the partners designed their laboratory so that they were able to keep every phase of the work under that precise control which is really the keynote of successful color transfer.

"There is no secret to our color transfers," said Baker. "We merely use the Eastman 'wash-off' process, but the success of our enterprise lies in the rigid adherence we are able to make in our laboratory to the four essentials of perfect color prints. I refer to balance, temperature, humidity, and acidity."

Matrix Most Exacting

Probably the most exacting step of the process is that of exposing and developing the matrix forms, which are later to hold the dye like microscopic sponges, and release it upon the paper, which then becomes the finished print. Accurate densitometer readings of the densities of the three color-separation negatives has proved the only means of determining the finely balanced exposure required for the matrix film.

From the enlarger, this wash-off relief film goes through a developer and tanning-bleach process, whereby the silver is converted to silver chloride, and the gelatin hardened wherever there is metallic silver.

The gelatin, thus tanned, is insoluble in hot water, while the unaffected gelatin is washed off. The remaining silver chloride in the gelatin image adhering to the film base is then dissolved out and the gelatin prepared to receive the particular color of dye for which its silver image was filtered.

These steps are carried out under rigid temperature control, exact within one degree, yet varying from 65°F to 125°F, during the procedure.

Three matrices, made as above outlined, are soaked in their appropriate dye solutions, and then placed one at a time in contact with a gelatin-coated paper, previously mordanted so that the dye will leave the matrix and transfer to the gelatin of the paper. The three dyed images combined in the gelatin on the paper base form the color print. Additional prints are made by re-dying the matrices and repeating the transfer.

While, theoretically, dyes should be procurable that would give exact duplicate tones to paper from the Kodachrome transparency, they are not, at this stage of development, a reality.

Color Balance

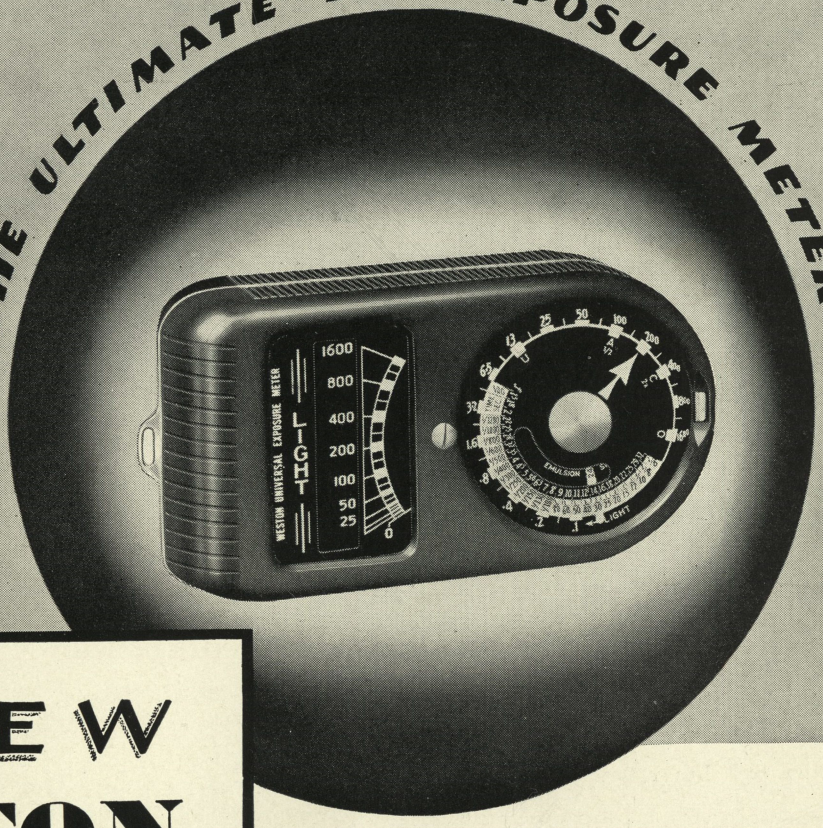
This lack of color balance must be compensated for by a complicated system of matting, made in perfect coordination with the original transparency, and with regard to the acid reaction in the imbibition process. Thus greens may be accentuated or depressed; reds may be darkened or lightened.

Balance in color values between the components made by most one-shot cameras is far from ideal, because the laboratory operator cannot compare his results with the subject photographed, whereas with Kodachrome a balance system of making negatives can be maintained within very close limits, because in working with that medium the operator has at all times the transparency, or, to all practical purposes, the original scene in such form that it may be placed upon the work table for constant com-

(Continued on Page 327)

ANNOUNCING

THE ULTIMATE IN EXPOSURE METERS



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DOOLITTLE BUILDS REWIND AND FILM VIEWER

By WILLIAM STULL, A.S.C.

WHEN a successful cine club devotes a meeting to a contest for uncut short films the projection committee faces a first-class problem in keeping the show running smoothly. With fifteen 100-foot reels to be projected and rewound there are likely to be fifteen exasperating intervals for rewinding the film and then rethreading the projector.

Using two projectors minimizes these delays, but often at the price of undesirable noise and disturbing light flashes while one projector rewinds as the other projects.

Therefore when the June meeting of the Los Angeles Cinema Club (16mm.) was devoted to a contest of this nature and was run off with incredible smoothness on but a single projector, it was obvious that some one had done something new and different to solve the rewinding problem.

The answer was that Fred Doolittle had brought his rewind to the meeting. Even when, as in some instances, a contestant had mounted three or four 100-foot picturettes on one 400-foot reel, Doolittle would have the film completely rewound before the projectionist, threading up for the next reel, was ready to put on the take-up reel!

Now the only commercially available rewinds that will equal this speed are the big electrically driven ones used in theatres, which will rewind a 2000-foot reel of 35mm. film in a few minutes. So it was not surprising to find that Doolittle's rewind also was motorized. But his was a home-built job made at a cash cost of about a dollar and a quarter!

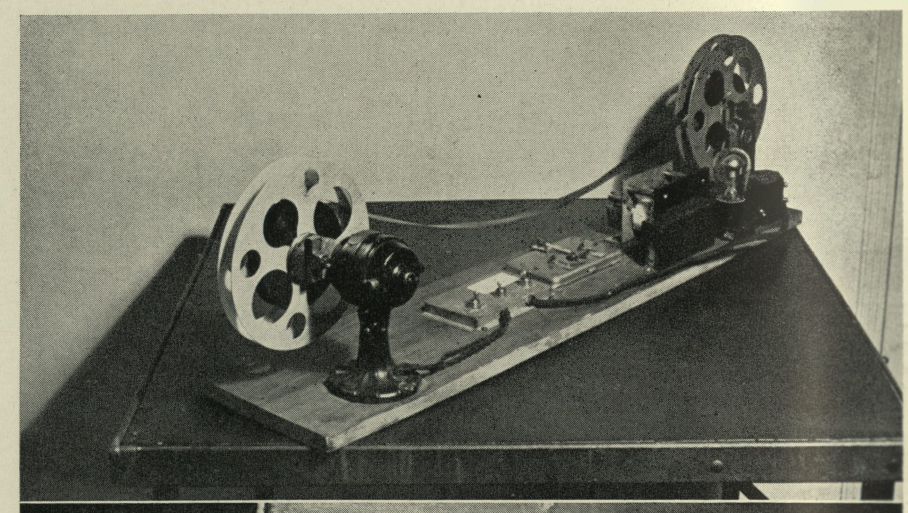
Uses Electric Fan Motor

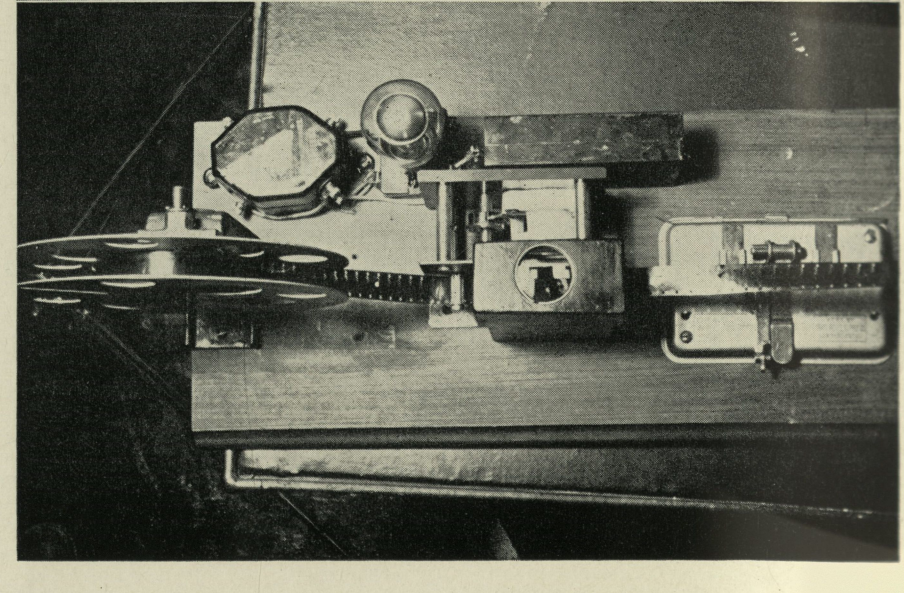
The heart of Doolittle's gadget is a little reversible electric motor taken from a cheap electric fan—the type you can buy for a dollar in any cut-rate drug store.

The fan blades and their guard are discarded, leaving only the motor and its supporting pedestal, which, by the way, is just the right height to accommodate a 400-foot 16mm. reel.

A small pulley is fitted to the motor shaft in place of the fan blades. You can buy a stock pulley for only a few cents or, if you are, like Fred Doolittle, a gadgeteer who finds more fun in making things than in buying them ready-made, you can turn one on your lathe from any handy bit of scrap metal you have about.

A simple metal bracket is next provided, to hold a second, larger pulley and the rewind spindle. The drive can





Fred Doolittle's editing outfit, with motorized rewind (left), illuminated inspection glass (center) and stroboscope viewer (right).

Close view of Doolittle's stroboscopic viewer with magnifying lens in place.

be effected by any convenient bit of belting; owners of belt-driven projectors will find it easy to salvage discarded projector belts for this purpose. But Doolittle simply slipped a couple of rubber bands over his pulleys and found them quite satisfactory.

One End Squared

It is possible, he explains, to eliminate this reduction-drive with its pulleys and belting and to fit the rewind spindle directly to the motor shaft: but the reduction drive gives more power for handling a full 400-foot reel of film, and is more satisfactory.

The rewind spindle and the "dummy" spindle upon which the full reel is held were turned from a pair of ⅜-inch bolts. One end was of course squared, to fit the square opening on one side of the reel, while the rest was turned off round.

If you want to be professional about it you can fit a spring or a spring-tensioned ball in the spindle to hold the reel to the shaft; but if, as Fred was, you are interested first of all in getting your gadget into operation, you can, as he did, simply drill a hole through your spindle and slip in a cotterpin to keep the reel where it belongs.

If you already have a set of hand rewinds you can use one of them to hold the full reel which is being rewound. Otherwise, you can do as Doolittle did, and simply make a "dummy" —a free-running shaft on a simple supporting bracket.

Doolittle's "dummy" bracket is simply a bit of brasswork salvaged from the scrap heap, cut to the right size and drilled to receive the reel-spindle at one end and the screws which hold it to the baseboard at the lower end.

Inspection Light

Beside the motor rewind on Doolittle's rewind board is a flat metal housing which at first sight looks like an additional splicer. Actually it houses a very convenient inspection light—again taking a leaf from professional practice. Doolittle simply cut a suitable opening in the baseboard and mounted in it a small lamp-bulb, such as those used to illuminate radio dials.

A curved sheet of tin beneath the bulb serves the double purpose of a reflector and a protection to the bulb. Another tin housing above holds an opal glass diffusing window. At the rear of the same housing are three switches, one of which turns the inspection light on and off, the second does the same for the rewind motor, while the third reverses the motor.

Stroboscope Film Viewer

A more recent addition to the Doolittle editing board is a unique stroboscopic film viewer, which affords a magnified image of the film, apparently in motion, and which works either forward or backward. This example of Doolittle's gadgeteering, too, was largely salvaged from assorted scrap-heaps.

The design, however, does credit to Doolittle's professional standing as an electrical engineer for the Southern California Edison Company.

The basic principle of the stroboscope viewer is relatively simple. The film travels over a sprocket, which incidentally is the one purchased unit in Doolittle's device. To the shaft of this sprocket is attached a commutator which turns on a neon light beneath the film for an extremely brief interval as each frame passes under the magnifying viewing lens.

Persistence of vision blends the image received from this one quick flash into that received from the next frame, so that the picture appears to be in motion. Since the illuminating light is intermittent, no shutter or intermittent movement is necessary.

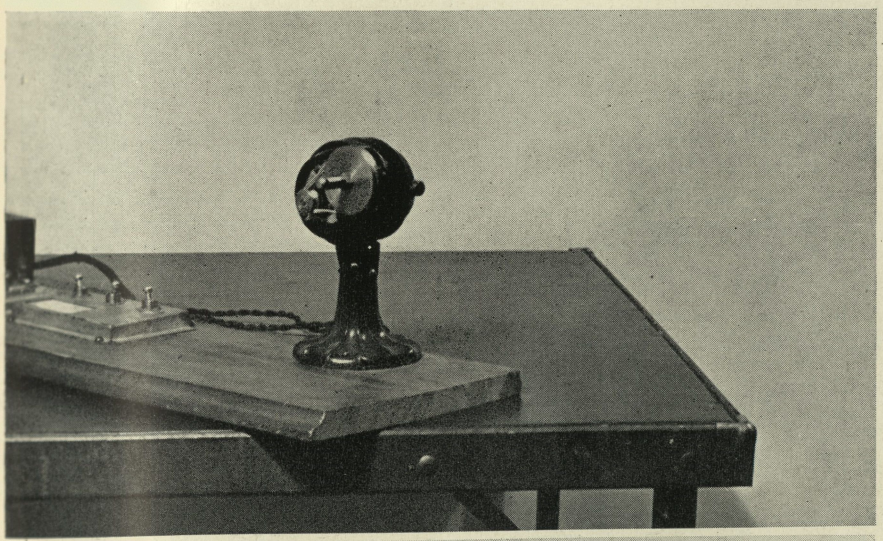
The strictly mechanical part of the viewer is correspondingly simple. A metal plate holds the one sprocket and the necessary idling rollers which hold the film in contact with the sprocket and also hold the section being viewed in the proper plane between the neon light and the magnifying lens.

Avoids Scratches

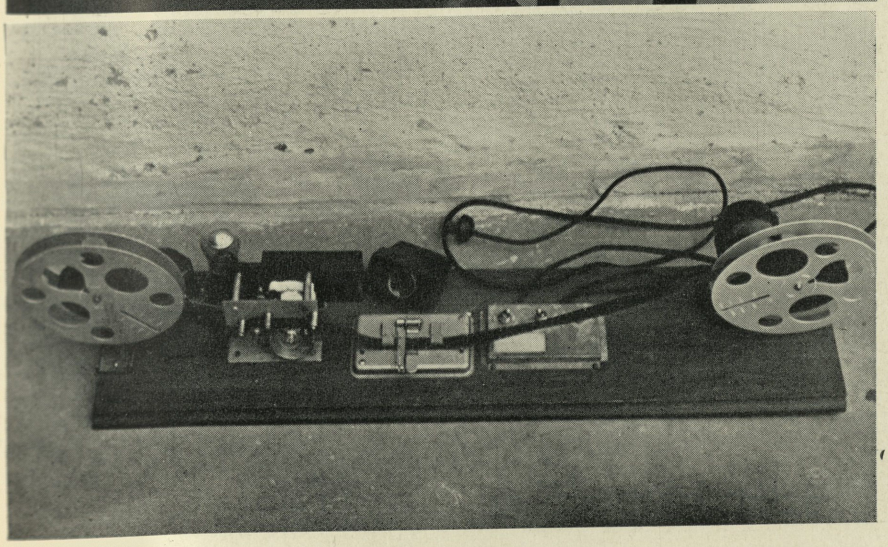
Due to the principle involved, no aperture plate or gate is necessary; and since the rollers, as well as the sprocket, are relieved, touching the film only along the perforations, there is nothing in the assembly to touch the picture area of the film and possibly cause scratches.

But if this mechanical part of the viewer is simple the electrical portion is more involved. The commutator, for instance, directly reverses conventional practice. In motors, generators and the like, a commutator consists of a shaft or drum bearing the required number of electrical contacts, insulated from each other by a suitable insulating material, such as hard rubber or bakelite.

In the ordinary commutator, the contacts are broad, and the insulating strips very narrow. In the Doolittle viewer, the opposite has to apply to give the required ultra-short flash—so brief the film can hardly move during the interval the light is on—the contact must be very narrow, while the insulating section is correspondingly broad, as the light must stay out until the next frame has



The motorized rewind, made from a dollar electric fan.



Fred Doolittle's editing assembly.

got into position. The brush which makes the contact is a simple bit of bronze spring-wire.

Uses Rectifier Tube

While a neon lamp will operate on alternating current, direct current is necessary for this use, for otherwise the lamp, which goes completely out with each alternation of the current (60 cycles in most localities) might very easily be dark just at the time its glow should be illuminating the film. Therefore Doolittle had to provide a source of direct current for his viewing lamp.

This was done by coupling a rectifier tube to a condenser. The rectifier tube supplies direct current to charge the condenser. The condenser, in turn, builds up a charge during the between-frame intervals that the circuit is open, and when the circuit closes gives the lamp a brighter flash than would otherwise be possible.

The complete circuit begins with a suitable transformer, salvaged from an old radio, which brings the regular 110-volt current up to the higher voltage necessary for operating rectifier tube. Next comes the rectifier tube.

Next, the condenser or, in Doolittle's case, a salvaged two microfarad telephone condenser, which serves the same purpose. This is connected, through the commutator, to the glow-lamp.

The magnifying viewing lens came from a dimestore magnifying-glass, and is mounted in a boxlike wooden housing which slips into place over the viewer when necessary, and extends downward to exclude room light.

The neon glow-lamp Doolittle used has two long, semi-cylindrical electrodes almost exactly as long as the width of the 16mm. film they are to illuminate.

The base of this lamp originally contained a resistance which in this case was unnecessary, as suitable resistance was already provided in the transformer used. Therefore Doolittle performed an operation on the base of the tube, opening it up, shorting out this resistance, and thereafter reclosing the base with plaster-of-paris.

This enables the condenser to discharge more rapidly than it otherwise would, giving a quicker light flash and minimizing the effect of the film's movement.

As has been said, with the exception of the one sprocket which was bought commercially at a cost of fifty cents, the viewer was made from discarded radio parts and from spare bits of metal such as every home machinist has in abundance around his home workshop.

But even using new parts throughout, Doolittle says, such a viewer could be assembled for a cost only slightly over five dollars. With the exception of the characteristically red-orange glow of the neon lamp, which is not too satisfactory for viewing color-films (and which could be corrected by using one of the newer types of glow-lamps which give a whiter light) the device works as well as any commercially made viewer, and with far less complication and risk of damaging the film.

But, as Gadgeteer Doolittle says, the fun of planning and making such a device exceeds even the satisfaction of using it, once it is made!

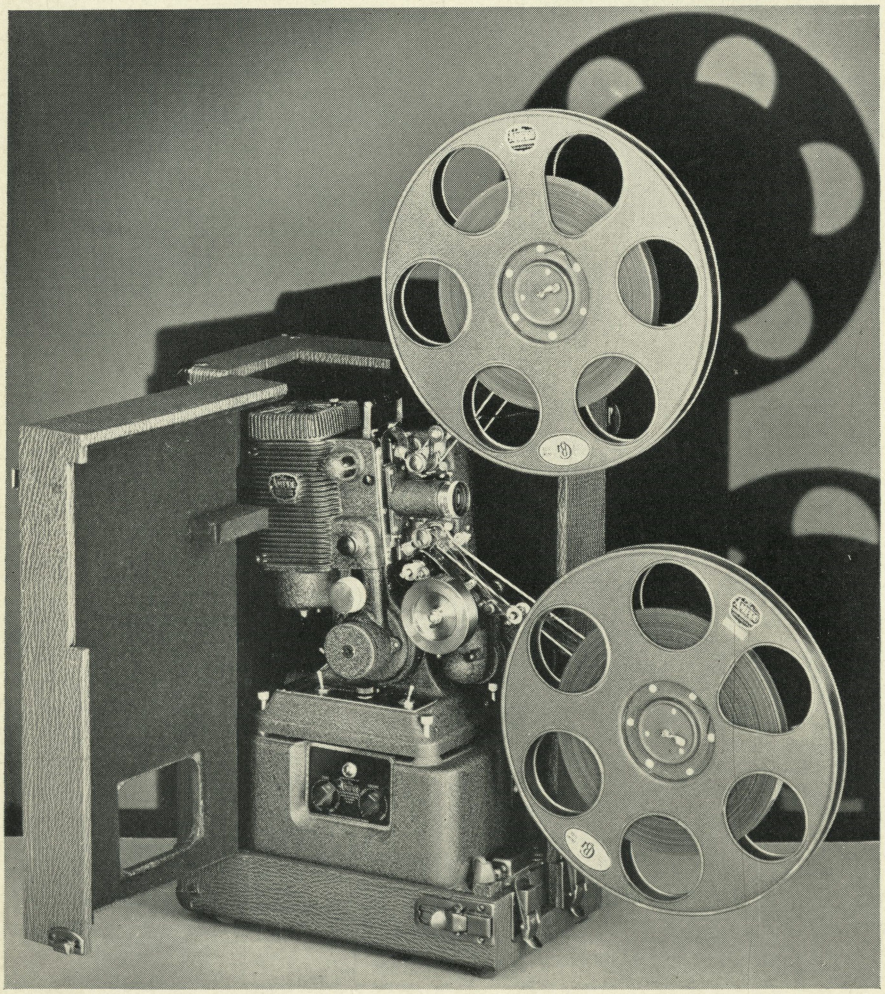
Amprosound Model UB Now in Hands of Ampro Dealers

For extreme quietness in operation Ampro's Sound-on-Film Model U has been inclosed in a sound-proof blimp case. The prices are to consumers: Ampro Model UB, $365; Ampro Model U, $345 (without blimp case).

With an amplifier output of 15 watts, undistorted, a 12-inch permanent magnet field speaker and 750 watt lamp projection, the UB is closed in a sound-proof blimp case.

Embodied in the U and UB are several innovations, such as a speaker-hiss eliminator which enables the operator to obtain full volume without hiss, even at low voltage; and an amplifier signal light indicates when amplifier is on and also designates location of volume and tone control knobs on the amplifier when rooms are darkened.

An active response to this sound-proofed Ampro Model UB is being received from dealers. Complete specifications and features will be sent upon request to The Ampro Corporation, 2839 North Western Avenue, Chicago.



Amprosound Model UB, now in hands of dealers, attracting attention because of its performance and ease and quietness of operation.

New British RCA Users

Three important motion picture producers in the British Isles, including a Government department, the Postmaster General, have been signed as sound film recording licensees by RCA Photophone Ltd., in London. The new contracts bring to fourteen the number of Photophone licensees operating in Great Britain.

Lafayette Camera Catalog

A post-card request will bring to readers a forty-page catalog of still and movie cameras, photographic equipment and accessories which has just been brought out by Lafayette Camera Corporation, 100 Sixth avenue, New York.

Marshall and Clarke Get Air Thrill

Wreck in Alaska of Jimmy Mattern's plane from which Charles Marshall survived—for one reason because he had the prevision to pull a couple of cushions over his head when he saw the crack-up coming.

CHARLES A. MARSHALL, A.S.C., had a bad quarter of an hour on the morning of June 2. He had more than that—at least five minutes more. And it was a twenty minutes when seconds are divided into fractions, a matter of detail with which photographers are exceedingly well acquainted. In this instance, however, it was not a mere matter of making an exposure.

It was a battle for life—for two lives—that of Pilot Frank Clarke, who made a desperate fight successfully to return to the ground a low-flying and crippled ship, and Marshall's.

The plane was a Stearman camera ship. Clarke had flown it from Union Airport to a temporary field near Point Mugu, forty miles north of Los Angeles, without any intimation everything was not right. In taking off the ship had not attained an elevation of more than fifty feet when Clarke pulled back on the control stick and found it loose in his hands.

The stick is designed to fit into a socket that projects four inches above the floor of the cockpit and to be bolted into it. The bolt was missing. The absence of elevation constituted the greater peril. Clarke dropped to the floor of the cockpit and grabbed the control cables and thereby kept the ship level.

By reason of the weight of the camera in the rear cockpit the craft was slightly tail-heavy. It began to bob. After he had attained a little altitude by making slow circles Clarke throttled down the speed of the motor.

Bangs on Windshield

By this time Marshall had noticed something was wrong and was puzzled by Clarke's being on the floor. He banged on the windshield for information. As Clarke could not get up he raised the control stick with one hand, holding the control cables with the other, and yelled for him to unscrew the handle of the camera friction head. That seemed to Clarke like the only thing handy for an emergency control stick.

"Marshall, not in the least excited or frightened," Clarke afterward related, "unscrewed the handle and passed it to me over the windshield with a screwdriver and a pair of pliers.

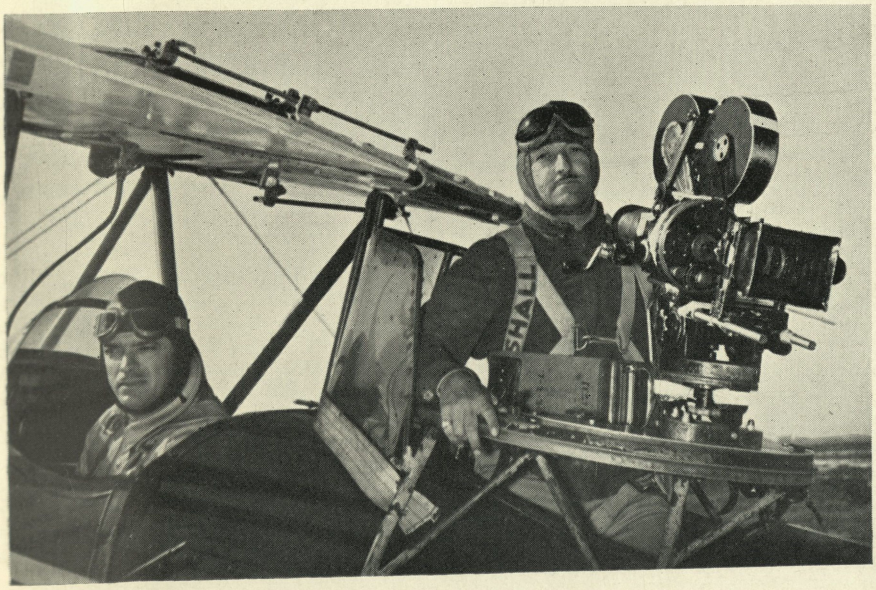
"I managed to slip the camera handle down into the control stick slot, and by losing altitude very slowly got near the field at about the right height for landing. I then cut the motor and glided down. It's the closest shave I've had in twenty-one years of flying."

Marshall estimates that at no time for twenty minutes did the ship reach an elevation in excess of 200 feet. Quick repairs were effected, and in less than an hour the two men again were in the air, where they secured for Columbia's "Coast Guard" the shots that had been planned.

The cinematographer is strong in his praise for the flying ability of Frank Clarke. "I put him second to no one with whom I have been in contact," he said.

And Marshall has had a lot of air experience himself. During the war as a member of the Signal Corps and Air Corps it fell to him to accumulate two thousand hours of flying. Following the war for several years he was employed in a laboratory. For the past ten years he has specialized in motion picture air work.

Marshall's last previous experience with adventure was lacking but twenty days of a year—in M-G-M's "Too Hot to Handle." It was on June 22 of 1938 when his ship, heavily loaded—it was carrying four cameras with accompanying batteries—failed to come to a stop



Frank Clarke, left, pilot, and Charles A. Marshall, A.S.C., who had narrow escape when control stick came loose in former's hand when ship was but fifty feet off ground. Photo by Rod Tolmie.

PRICELESS QUALITIES

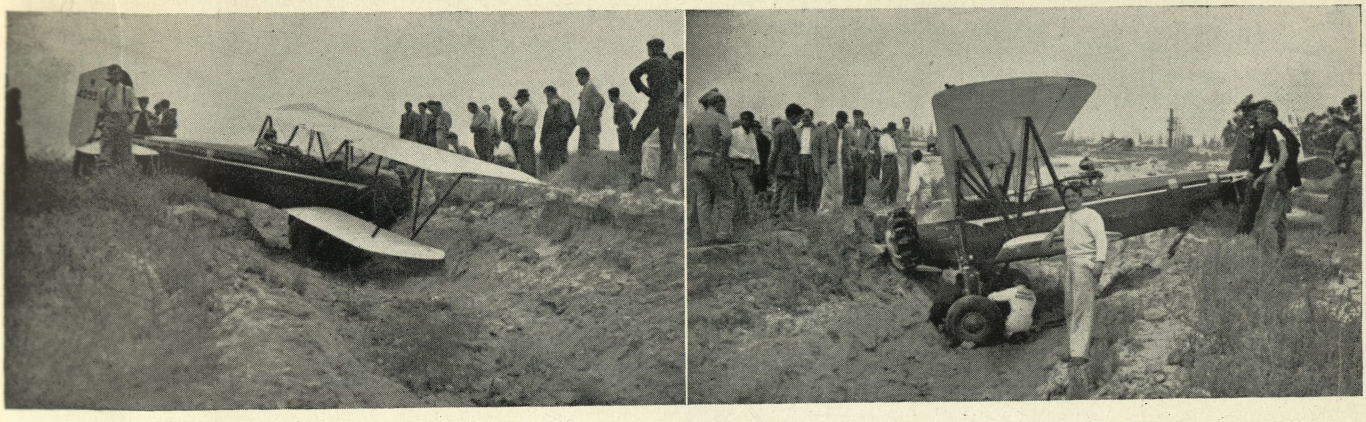
NEW film emulsions are indispensable to motion picture progress, but only proved reliability and uniformity make them practicable. Eastman *Plus-X*, *Super-XX*, and *Background-X* have those priceless qualities—hence the everyday use they are enjoying throughout the industry. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN

PLUS-X
for general studio use

SUPER-XX
for all difficult shots

BACKGROUND-X
for backgrounds and general exterior work



Two views of same plane after it had come to a stop in ditch in summer of 1938. Marshall was a passenger with four cameras, one pair on landing gear and other pair in rear cockpit. He was bruised but not seriously hurt.

within the accustomed distance and slid into a drainage ditch at the Long Beach airport. It still was traveling at a fifty-mile clip when it turned on its back and stopped with complete suddenness.

Two of the quartet of cameras were on the landing gear and two in the rear cockpit. The flying cameraman was a bit skinned up and bruised, but not seriously injured.

Alaskan Crash

His escape from injury was even more notable a year before that. He was flying north with Jimmy Mattern in 1937 in a Ford tri-motored twelve-passenger ship engaged in a search for the Russian arctic flyers. The ship, heavily loaded, had flown from Glendale, Calif., with Fairbanks, Alaska, as its immediate destination.

Ten miles south of that city the ship had been forced down by a heavy storm, with visibility minus. Marshall with unaccountable prevision had secured in Glendale two cushions, on which at the time of the descent he was sitting. As he saw the nature of the ground on which the plane was bound to land he reached under him as he raised up in his heavily bolted chair and withdrew the two cushions. Without loss of time he placed the two of them over his head and shoulders.

As the ship, traveling at a sixty-mile speed, came in contact with the tundra or swamp land, it plowed deeply into the soft ground and turned on its back. An accompanying picture shows the damage that resulted. Marshall's chair was torn away from the heavy bolts that fastened it to the floor. One of the cushions over his head and shoulders was cut in two.

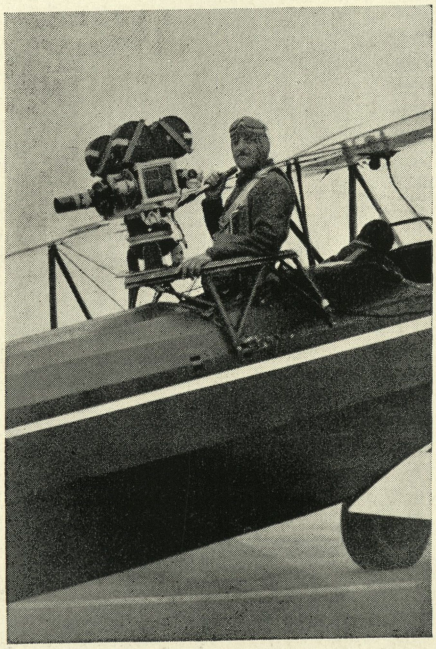
A fifty-gallon oil reservoir near him spilled its contents over him. But, most fortunately, a big gas tank just to the rear of where he had been seated in the cockpit was empty. Had it been filled as when it left Glendale its impact would have destroyed him beyond any doubt. As it is, effects of the bump he got on his head remain with him yet. In spite of the treatment he underwent for a long period after the crash he experiences an occasional kink in his neck.

The pilot, copilot and Marshall had been on the ground but forty-five minutes following the crash when they were sighted by Joe Crosson, famed Alaskan pilot, who when the ship had failed to arrive as expected immediately set out in spite of the storm to find the ship.

He quickly spotted the crash. Flying low and finding the three on their feet he conveyed to them by signals and shouting for them to walk to the Tanana River, distant three miles. Then Crosson returned to Fairbanks and secured a pontoon ship. He flew back and waited for the trio to emerge on the bank of the Tanana. Fairbanks was the only habited spot in many miles. In a few minutes the three men were comfortably housed.

The making of motion pictures from the air affords a thrill to the photographer as well as to the screen spectator.

Marshall in same plane as that which gave him and his companion the thrill of their lives.



Philadelphia Cinema Club

A riot of color would really be a good lead for the story of the June Meeting of the Philadelphia Cinema Club, held at the Hotel Adelphia June 13.

Our own Francis Hirst started the ball rolling with his talk on "Color Aesthetics," demonstrating the same by small colored plaques, indicating the various colors of the spectrum, as well as with a rotating disk showing the primary colors. He followed this very fine talk with three 8mm. films in color, taken by himself, with the help and cooperation of Mrs. Hirst.

These films, "Golden Trail," "Nova Scotia" and "Peggy's Cove," were enjoyed by everybody. In "Golden Trails" Mr. Hirst again demonstrated his skillful handiwork in utilizing color design for title work.

Not to be outdone, Arthur Hurst showed "A Pictorial" with 800 feet of nature's color, including flowers, trees, birds and landscapes, and showed them in their changing garments of the seasons. Included in the "Pictorial" was his famous single frame shot of a water color painting being made.

In line with the ideas outlined in previous meetings, Carl Finger reshowed his 16mm. Kodachrome "Birthday Party," indicating what can be done after constructive criticism and re-editing of films of this kind.

The films on the New York World's Fair have started to come in, led off by Dr. Bowersox, who showed his trip in 8mm. with a running comment by R. H. Hoot. A 16mm. color film of the fair taken in part by Mr. Hoot and in part by Benjamin Kline indicated the very many unusual angles at which scenes can be photographed, either day or night, in this "fairyland" for photographers.

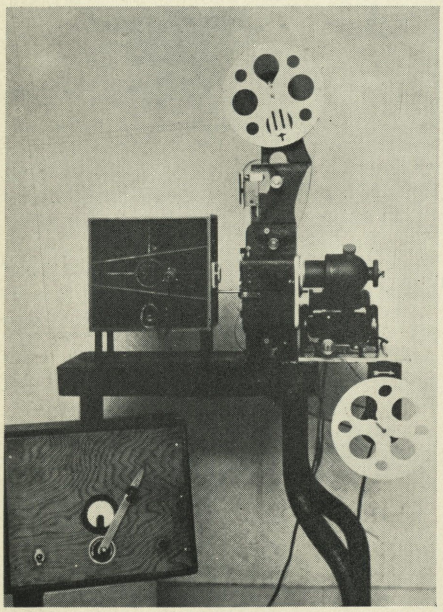
Seven new members were inducted into the club, so that when we reassemble for our opening meeting in the Fall we shall do so with a full membership list.

B. N. LEVENE,
Chairman Publications Committee.

MODERN PUTS IN OPTICAL 16MM. TO 8MM. PRINTER

JUST completed and installed for Modern Movies, Inc., 6018 Fountain av., Hollywood, by Theodore Bell of Van Nuys, Calif., is the optical 16mm. printer shown herewith. For the 8mm. side of the printer an Eastman Model A 16mm. camera was converted to 8mm. by replacement of the pulldown cam and changing the takeup gearing. An 8mm. aperture was made to replace the former 16mm. aperture.

The Eastman model was selected because of its serviceability, steadiness and aptitude for the job. The lens employed is an Eastman f3.5 25mm. and is mounted on an adjustable plate so as to allow 3/16 of an inch movement either vertical or horizontal. This provides for perfect alignment and for reframing.



16mm. to 8mm. optical printer installed by Modern Movies of Hollywood.

The 16mm. side is an Eastman 16mm. Model A. The projector movement is mounted to allow ⅝ inch movement forward or backward. The aperture was specially made and is framable. Mounting of both movements was made on a 20-pound castiron fully seasoned block to insure rigidity. The camera is mounted on half-inch steel legs, longitudinally threaded, and the projector is flush fitted to the base with four slotted holes. A direct driveshaft connects the flywheel of the 16mm. to 8mm. sides.

The lamphouse is a stock affair and condensing lenses are specially fitted. The lamp is 6 volt, 25 candlepower. A special transformer and rheostat supply and regulate the power. Transformer and rheostat are built into a separate remote control unit, which may be changed to other printers, thus assuring standard results.

Power is furnished by a 1/25 hp. motor, which is rubber mounted to eliminate vibration. The speed of printer is 8 frames a second. Four hundred foot magazines have yet to be installed.

Los Angeles Cinema Club

The June meeting of the Los Angeles Cinema Club was a dinner meeting, at which a 100-foot reel uncut film contest was held. About 55 members and guests attended.

A new club function was announced. Each month a stag technical meeting will be held the third Tuesday night at the home of some member. Interesting gadgets and films will be brought and shown to the group.

A different method of judging contests was tried and found very satisfactory. Guest George Blaisdell and three members were appointed as judges to select the three best films of the 15 entered in the uncut reel contest. These three films were then rerun before the audience and the members voted by ballot for their choice of the best film. The one receiving the most votes, a Kodachrome reel entered by Guy Nelli, won the coveted first prize, a splendid book on photography donated by Winter's Camera Shoppe. Awarding of second highest number of votes carried the second prize to Mr. Levi, and similarly third prize was won by Earle Memory.

Members were unanimous in considering the 100-foot reel uncut film contest a splendid type of contest. The various reels shown gave a good cross section of the efforts of the members, and the excellence of the general photography of those entering films made the task of the judges most difficult.

ED. J. PYLE, JR., Secretary.

Lafayette Filters

A new filter mount and a wide variety of optical glass filters to fit have been announced by the Lafayette Camera Corporation, 100 Sixth Avenue, New York. The mounts are available in 12 sizes to fit all lens diameters from 23 to 42 mm. The filters available for each size provide all the more popular varieties.

The mounts consist of a barrel and a clamping ring which screws over its outer end to hold the filter glass securely in position. The inner end of the barrel slips over the lens mount and has spring fingers to insure a good grip.

KODAK PUTS ON MARKET ITS SUPERMATIC SHUTTER

ANNOUNCEMENT comes from Rochester of the new Kodak Supermatic Shutter No. 1, an important new-comer in the field of fine precision built shutters.

Made in Kodak's precision workshops in Rochester, this new shutter is an unexcelled between-the-lens shutter in mechanical design and performance, accuracy, sturdiness, efficiency and calibration.

Special lubricants developed by Kodak research enable the Kodak Supermatic Shutter to operate satisfactorily and consistently over a greater summer and winter temperature range than any other between the lens shutter.

The Kodak Supermatic Shutter has a speed range of 1 to 1/400 second, and includes a delayed action or self timing setting at all shutter speeds including 1/400 of a second, with a pause of about 12 to 15 seconds' duration.

Shutter speeds which require the use of a tripod—time, bulb, 1, ½, 1/5, 1/10 second—are marked in red to warn the user of the necessity for a rigid support. The faster exposure speeds—1/25, 1/50, 1/100, 1/200, 1/400 second—are marked in black.

Speed setting is accomplished by turning a ring around the periphery of the shutter. The ring bears two index points, one for instantaneous speeds, and one for the longer exposure speeds. The shutter setting lever is situated on the top of the shutter and the release lever is located on the left side.

A third lever, on the right, which cannot be set until the shutter has been cocked, serves to set the delayed-action mechanism. A socket for a cable release is provided. The delayed-action device, if set, is put into motion when the release lever is released in the usual way.

Extremely thin spring blades, held to fine assembly tolerance, close tightly over the aperture in order to obviate light leakage. Their lightness makes possible a high speed of 1/400 second.

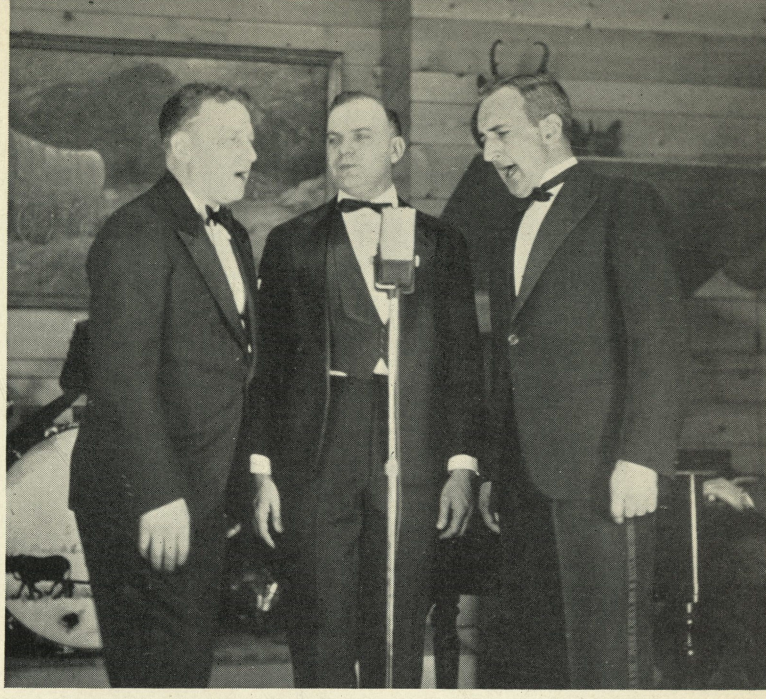
Other speeds down to one second are timed with a retard, consisting of a precision gear train and pallet escapement. The whole shutter mechanism is built and assembled with the accuracy of the finest watch. The new swirl finish is another feature of the shutter.

This new shutter is at present available only on the Kodak Special Six-20. Other Kodaks will be fitted with this shutter at a later date.

BUILDING MOVIES AROUND MUSIC

By ORMAL I. SPRUNGMAN

All flash photos and 16mm frame enlargements by the writer.



This lip action shot was clicked during the actual filming of the Mill Stream sequence. Left to right: Edward Johnson, who conceived the idea; Dr. Leonard Martin, chief sound man at club's recent Movie Party; and Monty Paynter, non-member. Ray Eppel, extreme right, soloed on piano.

I BELIEVE it was Robert Bruce, Hollywood's photographic artist, who first advised amateurs never to photograph without a reason. "The better the reason," he pointed out, "the better the picture."

Yet these timely words fall on the deaf ears of cameramen whose cine life is one continual round of garbled shooting, and who neither find the time nor the inclination to unravel the perplexities of continuity and all its complications.

But there is a form of purposeful filming which is neither brain-tiring nor soul-consuming. Unique in itself, this new practice of building movies around music offers heretofore undreamed of possibilities for every type of cameraman, beginner or well-advanced.

Movie stories are as varied as the recordings themselves, and filming may be as technically perfect or as downright simple as the moviemaker desires.

Briefly, a likable recording is selected, its playing time noted in seconds. Then the moviemaker sets out to shoot movies to fit the mood and tempo of the tune itself. Final editing brings the footage down to the exact playing time of the recording, and the result is a sound-synchronized movie.

This is exactly the opposite of the usual procedure of filming a movie first and then finding suitable music and sound effects to fit the scenes.

Down to Cases

Let's get down to actual cases.

Quite some time ago the late Joyce Kilmer wrote a poem called "Trees." It was a pretty sort of thing, so beautiful that it was set to music. A perusal of the current Victor Record catalog reveals at least six variations in recordings.

You can buy the tree disk featuring the voice of Ernestine Schumann-Heink, or Nelson Eddy, or John Charles Thomas. Or you may have the piece played by Shilkret's Victor Orchestra or Bunny Berigan's swing music. You can even buy an all-organ recording of "Trees" by Don George. Everything depends on individual tastes.

Since organ melodies seem always tops for accompanying color stuff, suppose you pick the organ number for your next Kodachrome feature. Your first step is to load your camera with color film, choose a day when the sky is deep blue and fluffy with clouds, and do your tree filming.

Take long shots through drooping branches and frame vertical views through tree tops against a fast-moving

The Opera House stage of the "Covered Wagon" in Minneapolis furnished a rustic background for filming the movie recording, "Down by the Old Mill Stream," recent production of the local cine club. Silhouetted in foreground with camera is Arthur Schwartz, one of the organizers of the club.

cloud. To accentuate such movement shoot at 8 frames per second instead of the usual 16, closing down the lens aperture one stop to compensate for the slower speed.

Watch for human interest sidelights, such as a squirrel scampering up a trunk, a bird feeding its nested young, or an odd-looking insect slumbering amid tooth-chawed leaves.

Here's Real Job

Since the music is of the leisurely, lump-in-throat sort, scene length should compare closely with the tempo. Faster music might demand much shorter scenes, but, for the tree tune, shoot just a bit longer than usual, dissolving between scenes, if your outfit will permit trick effects.

Back home on your editing table, a real job confronts you. Your problem is to boil down your footage to exact record length, perhaps changing the continuity here and there to fit the mood.

By actual stop-watch test, you find that the organ number has a playing time of three minutes. Bunny Berigan's swing version runs 3 minutes and 15 seconds. One hundred feet of 16mm. film runs through the projector at 16 frame speed in approximately four minutes.

By converting running time into footage, you discover that the picture story can be covered with about 75 feet of film. The proper synchronization is obtained by actually measuring the film, foot by foot, and running the projector at a constant speed.

Trees are not the only nature subjects which lend themselves to musical treatment. The Chicago Symphony Orchestra has made a Victor Red Seal recording of "To a Wild Rose," on the reverse side of which is "To a Water Lily."

The wild rose opus runs 2 minutes 10 seconds, while the water lily piece has a playing time of 2 minutes 40 seconds.

The music is tearfully soft and beautiful, and all one has to do is invade the city's rose garden or backyard lily pond to pick up the necessary color closeups. Other appropriate disks can be found in the catalogs of the various phonograph record companies.

Shooting Tough One

Suppose you have played with straight musical background for some time, and now you want to try something a bit more difficult. Then pick a record containing a vocal refrain, and shoot and edit in an attempt to synchronize lip movement.

This is done by photographing all the background scenes first, and then setting up to shoot an actor, appropriately garbed, "mouthing" the recording being played simultaneously while filming.

After a little practice, it is remarkable how accurately lip synchronization can be obtained.

Of course, it isn't always essential to shoot film especially for the recording at hand. Sometimes surplus footage from reels previously filmed can be re-edited to fit the music.

For instance, take the Victor recording of that old-time favorite, "Memories," by The Southerners. The record plays 3 minutes 10 seconds. Further analyzed, the record reveals that an instrumental introduction runs 1 minute 30 seconds, a vocal chorus 47 seconds, and an instrumental close just 53 seconds.

Left, John Leffler, 8mm. movie fan and member of the Minneapolis Cine Club, is shown with his homemade method of synchronizing recordings with films. Projector motor drives turntable by means of a flexible shaft. Same cable also attaches to camera when filming synchro-movies.

Right, Program Chairman Harold Bronson (right) films closeup of Club Treasurer Paul Frantzich strumming guitar for Mill Stream feature. Program Committeeman Carroll Davidson thumps drums in background. Actors "faked" lip and finger movements for camera while actual recording was being played.

Now dig up your old cine memories—pickle-and-ant picnics of days past, worm angling beside a trotting brook, camping scenes in the great north woods. Pick only the highlights and the best exposed shots. Look for a continuity thread on which you can hang these scenes.

For instance, you might fade in on an over-the-shoulder shot of someone thumbing a snapshot album, swinging in for a closeup of a familiar scene, fading out and in on the actual movie scene, and then returning later to the album. You can work this stunt at least twice before the vocal comes in.

Watch Step

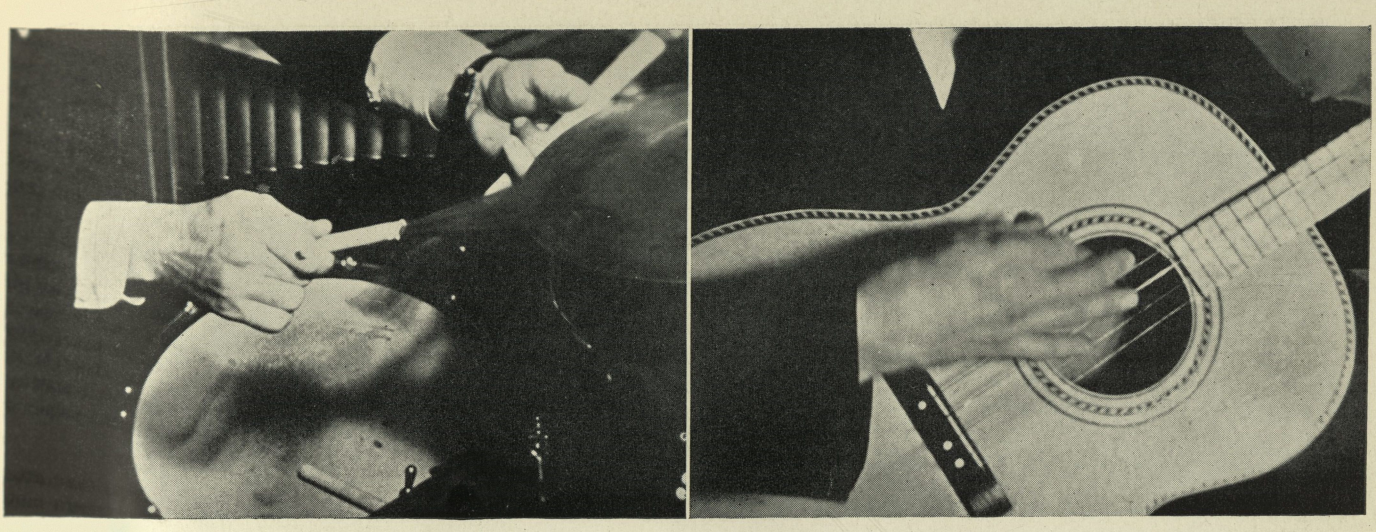
For the vocal, please pay close attention. Make sure that the camera motor spring is fully wound, and that the turntable used on location spins at 78 r. p. m. Any variation in either motor will throw the whole piece off.

After the vocal has been rehearsed several times, set up the camera, check distance and exposure carefully, and film the sequence with the characters going through the mouth movements as the recording is played. This vocal sequence is then cut into the regular footage, the final reel brushed up a bit, and there is your home-made talkie.

If you want to vary your camera angles and distances on any one vocal, first shoot the whole sequence through for timing, and then repeat from different angles. You can cut out any number of frames from the original sequence and still retain synchronization provided that the angle shots cut into the first film contain an identical number of frames.

It was early one morning, over his breakfast coffee, that Edward Johnson of the Minneapolis Cine Club got an idea for a synchro-talkie feature that proved to be one of the sensations of the Club's Second Annual Movie Party screening, reviewed in the June issue.

Invading many of the local record shops, Johnson managed to uncover an inexpensive Decca recording, "Down by



Left, such closeups as this 16mm. color frame enlargement help to relieve monotony of longer shots, enlivening tempo.

Right, this action closeup of a strumming guitar was enlarged from a 16mm. color frame from "Down by the Old Mill Stream."

the Old Mill Stream," featuring the Three Peppers—piano, guitar and drums—and a vocal trio. Since each musical instrument was featured in solo, the piece offered opportunities for closeup camera work.

Breaking It Up

First, the record was played and replayed until the entire number was perfectly timed. In short, the piece ran a little under 2½ minutes, and was broken up as follows:

	Seconds
Piano introduction	8
Vocal trio	31
Guitar solo	31
Piano solo	35
Vocal trio	42
Total seconds	147

Second step was to line up a camera, a string of lights, a suitable location, and a batch of actors—three for the vocal and three for the band. Previous singing experience was unnecessary, although musical ability in handling instruments was found to be rather advantageous. Even at that, the drummer hadn't ever thumped a yawning hide until a minute before the actual shooting!

The log-cabinish "Covered Wagon," unique downtown Minneapolis night spot, was chosen for the picture setting because its midget stage and rustic appearance lent itself well to color filming.

With lights and camera in readiness, the recording was started. A long shot of the curtained stage was taken during the piano interlude, near the close of which the curtain rolls up and the vocal trio and band swings into action with ample gesturing.

On the second chorus, the camera was moved up for a medium shot, and the guitar and piano closeups shown in turn. To add a humorous touch during the piano key thumping, one of the vocalists removed a handkerchief from his pocket and mopped the brow of the perspiring, finger-strumming pianist.

Enters Real Wag

Considerable cutting was necessary, adding a short sequence here and lopping off a few frames there, before the film was ready for its premiere projection. A scroll title was used to introduce the featurette, including credit lines to band members, vocalists, and others, winding up with this gem:

> Any resemblance of characters herein pictured to others, living or dead, is unfortunate as well as coincidental.

All of the previously mentioned synchro-talkies were made and projected without any connection whatsoever between turntable, camera or projector. Synchronization was maintained simply by altering the projector speed during screening.

It remained, however, for one John Leffler, 8mm. enthusiasts and member of the Minneapolis Cine Club, to rig up a synchro-system having all the advantages of sound-on-film.

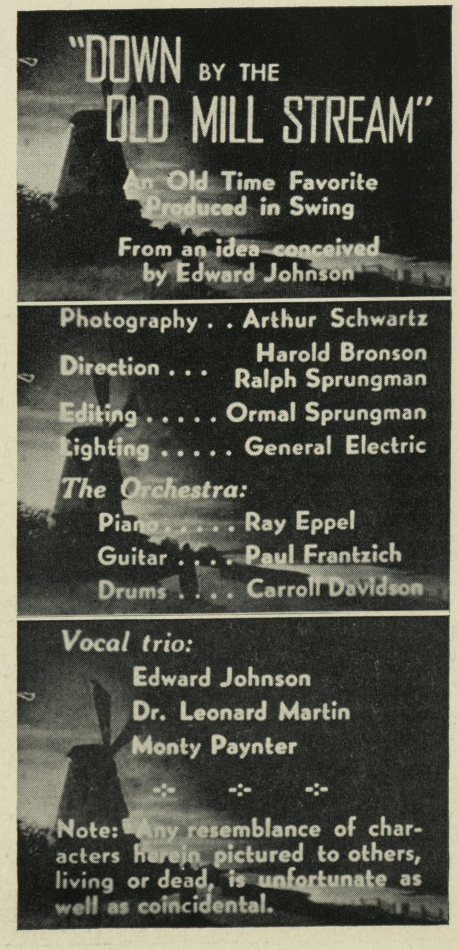
Leffler, who also has done considerable experimenting by recording a needle-scratched sound track on acetate film, spent an idle dollar one day for a turntable salvaged from a $450 Sonora phonograph he discovered in a second-hand store.

Rebuilding the turntable into a portable carrying case, he connected one end of a 30-inch auto radio cable (the flexible shaft type used for tuning) to the turntable motor, with the other end affixed to the take-up pulley of his Eastman Model 50 8mm. projector. The turntable itself was driven by the projector motor.

Keep Spring Tight

When building movies around voice recordings, Leffler uses the same cable, attaching the projector end to the camera, which is housed in a specially constructed container. The camera motor spring is kept at full tension during actual filming by repeated windings, and the entire record is filmed

Main title of synchro-movie which proved sensation of Minneapolis Cine Club's Second Annual Movie Party. Enlarged from 16mm. frame. Title by Park Cine Laboratory.

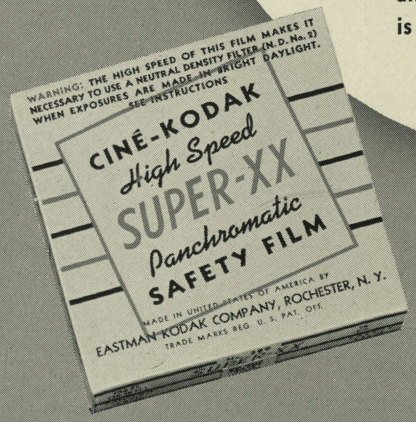


For Film-Wise MOVIE MAKERS

IF a scene is worth filming at all, it merits the best film you can get.

That is exactly why Ciné-Kodak Film is the accepted standard among film-wise movie makers. It is always worthy of the job it is asked to do, always fully responsive to the skill of the camera user.

To meet the requirements of varying movie-making opportunities, Ciné-Kodak Film is made in several emulsions, each with its specific field of usefulness. Know these films, understand what they can do for you—and real achievement in home movies is within your grasp.



UPPER LEFT: 16 mm. Super-X adds brilliance and fine grain to ample speed.

LEFT: 16 mm. Super-XX, for use when the most sensitive film is essential to success.

UPPER RIGHT: 16 mm. Kodachrome, of course, affords the finest of color movies.

RIGHT: 8 mm. movie makers rely on standard "Pan" for general filming, indoors and out, and on Kodachrome for movies in full color.

GOING TO THE NEW YORK WORLD'S FAIR? Be sure to take your Ciné-Kodak. Stop at the Kodak Building, where Eastman experts will advise you what to take and how to take it. And there you'll see the unique and gorgeous Cavalcade of Color—the Greatest Photographic Show on Earth. Nothing like it has ever been seen before. Don't miss it.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Methodical Preparations Pay Large Dividends

Methodical preparations pay dividends.

By JAMES A. SHERLOCK
Sydney, Australia

SECOND ARTICLE

Copy of report presented to customers by Herschells Photography Limited, Agfa 16mm. Processing Service of Melbourne, Australia:

	MISTAKE	EFFECT	REMEDY
.....	of your film is under-exposed.	Dark image on screen.	Open up lens to give more exposure.
.....	of your film is over-exposed.	Light image on screen.	Close lens to give less exposure.
.....	Scenes are too short.	A flash and picture is over.	Shots should not take less than 5 seconds. Average 10 seconds.
.....	Scenes show too much movement.	Unsteady and blurred pictures.	Hold camera steady. Move camera very slowly when panoraming.
.....	of your film shows scratches.	Vertical lines on screen.	Clean the gate and guide rollers.
.....	of your film is not sharp.	Picture blurred.	Focus lens carefully according to scale.
.....	Scenes show halation.	Flare from light portions of subject.	Exposing against light is unwise, but, if you must, use lens shade.

WITH the camera loaded the first step is choosing a subject to shoot. Most movie makers purchase a camera for either of two reasons, to make a permanent record of a holiday or to photograph the family. A large number of people buy a camera the day before they leave on a holiday, shoot reel after reel of film and trust to luck that their pictures will be good. Thanks to the simplicity of most movie cameras this is sometimes possible, but mostly the pictures contain many errors that could be avoided.

The most common fault of beginners is misjudging the correct exposure to use. Every exposure meter varies slightly, camera speeds vary and cheap lenses do not always pass the rated amount of light.

The amateur would be well advised to use the first spool of film making test shots. Erect the camera on a tripod, use your exposure meter and set the lens to the aperature indicated, expose 5 feet of film on your subject, then open the lens half a stop, expose another 5 feet, then do the same thing again.

Now go back again to the exposure your meter indicated, expose another 5 feet of film, then close the lens half a

Figure 1. This is not a close-up. A close-up may be taken from . . . Figure 2. A mile . . .

stop, expose 5 feet of film, close it another half stop, expose another 5 feet of film and you should have your test complete.

No less than 5 feet for each exposure is necessary in order to gain a proper appreciation of the varying exposures when the film is projected.

Between each shot hold your hand in front of the lens and expose a few frames. When the film comes back from the processing station these few frames will be black and will serve to identify each alteration in exposure. This may seem a waste of time and film to the beginner, but he and quite a few seasoned amateur filmers would be well repaid to make this simple test.

Attached is a standard fault chart used by the Agfa processing station in Melbourne, designed to help amateurs recognize their mistakes. A study of this is recommended.

Except for the old trouble of not knowing how near to make a closeup, all early faults are mentioned. Whatever portion of your subject you wish to make a closeup of, have it almost fill the view finder and you have your closeup.

It is a good plan to have a system of preparing the camera before shooting each scene. For the first few shots do everything methodically and slowly and it is possible you will develop a good habit that will remain throughout your filming days.

1. Choose the best angle.
2. Check the spring to see it is fully wound.
3. Focus the lens to correct distance. (If a turret camera is used set every lens).
4. Measure the light with an exposure meter.
5. Set the lens aperature.
6. If a multiple speed camera is used check speed indicator.
7. Expose the film.

A serious filmer should use a tripod wherever possible. It is the most important of all accessories, particularly when telephoto lenses are being used. They magnify the scene and any movement of the camera is emphasized. If the cameraman is using a camera speed of 8 frames per second or he is waiting for some clouds to arrive he would be well advised to use a firm tripod. One that has a smooth moving head in both horizontal and vertical directions is best.

Figure 3. A yard . . .

Figure 4. Or a foot, but they must fill the viewfinder, have texture and detail.

Notes of the Clubs

Monterey, Calif.

The Peninsula Cine Club of Monterey, Calif., at its regular meeting June 21 held its first showing of its documentary film on the First Christian Church of Pacific Grove. The main purpose of the exhibition was to secure final criticism and editing by the club as a whole of this two-reel 16mm. black and white film.

The making of the film was designed by the club to commemorate the forty-fifth anniversary of the church, detailing highlights of the congregation's history from the first "parlor meetings" in 1894 down to the ceremonies held last April to celebrate the first forty-five years.

Improvements have been made to the club meeting place through the efforts of Dr. Guy V. Rukke. A projection booth has been added to the north end of the meeting room, and additional seating facilities provided for the greater comfort of members of the Club, and to prevent a recurrence of the crowded condition prevailing at the last meeting.

President K. G. Mathison advises that the proposed club 8mm. cooperative filming project will be combined with the Club Field Day, arrangements for which are now being made; and that announcement of time and place for both will be made at the next meeting.

●

Hermosa Beach Movie Club

The Amateur Movie Club of Hermosa Beach was organized in February of this year. It has maintained interest by allotting to each member some specific task. We are making a picture in which each has a place either in the cast or in the technical crew. It soon will be ready for the club editors.

Meetings are held on the first and third Thursdays for a business session, program and "workshop." Recently we have had on our programs a make-up man from Max Factor's studio in Hollywood; the head of a firm engaged in making commercials; a color man from Burbank and a professional movie editor.

On the second and fourth Thursdays we have rehearsals and shooting. This summer once a month a Sunday excursion is planned to places of photographic interest.

MARGARET M. KRONNICH.

●

Alhambra, Calif.

A large group of movie fans attended the May Meeting of La Casa Moviemakers of Alhambra, Cal. An interesting demonstration of fotofade was given by the Dye Research Laboratories of Los Angeles. The writer showed his film "Our Glorious West," which gives a travelog of our western national parks in natural color.

Mr. Winchester ran his 8mm. of Yellowstone, also in Kodachrome. A fine film was shown by Mr. Rodgers, giving some good photography of the San Francisco Fair. It was decided to continue the meetings through the summer instead of taking two months' summer vacation as formerly.

R. A. BATTLES, Publicity Chairman.

●

San Francisco Cinema Club

The meeting of the Cinema Club of San Francisco was held at 1355 Market street, June 20.

J. O. Tucker screened a black and white and Kodachrome picture, "Guatemala."

K. G. Stephens gave an illustrated talk on editing and titling.

John Smurr ran his picture "Yosemite in Winter Time," which is in black and white and Kodachrome.

Louis Petri showed his Kodachrome pictures of "Follies Bergere" and "Ice Follies."

Through the courtesy of the Western Movie Supply a Castle Film entitled "Camera Thrills in Wildest Africa" was shown.

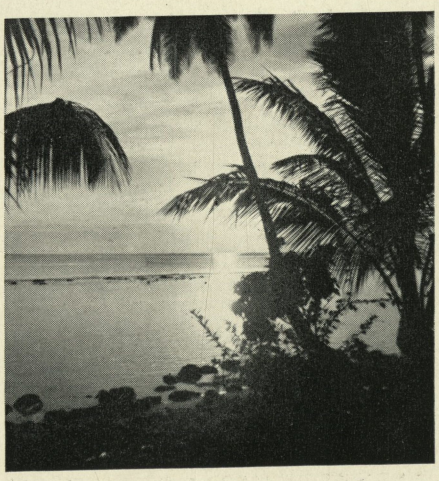
●

Los Angeles 8mm. Club

The June meeting of the Los Angeles 8mm. Club was held on the 13th at the Eastman Auditorium, 6706 Santa Monica Boulevard, Hollywood.

President Leitch introduced eight new members to the club.

A feature of the evening was the presentation by Bill Wade of a series of pictures synchronized with sound depicting the numerous methods of lighting subjects with photoflood lamps. Although prepared by General Electric mainly for the edification of still camera enthusiasts it was so well prepared, and the lighting of movie subjects being so similar, that the members present received a great deal of benefit from this showing.



In the South Seas. Photo by Marples.

In regard to our annual contest the president suggested the possibility of this year's pictures being judged by a dramatic critic, a cameraman and an artist in place of the three cameramen system previously used, in order that the different viewpoints of the judges would tend toward a fairer judging of the various types of pictures submitted. As a basis of comparison the pictures might be classified as follows: 50 percent for general interest, 10 percent for exposure, 10 percent for composition, 10 percent for editing, 10 percent for titling and 10 percent for continuity.

Pictures shown were submitted by Members Ackerman, McEvers, Linn, Finck, Armstrong, Rhoads, Bevans, Crawford, Cornell, Hewitt, Kelly, McEntee and Moore, all of whom won places on the Honor Roll.

Kodachrome rather predominated in the screening as there were only two 50-foot reels of pan shown.

K. J. Crawford's documentary on California wild flowers was very well done and proved really instructive as well as entertaining. Jack Cornell's picture was extremely interesting in that it demonstrated the wipes and dissolves obtainable through the use of the Transito attachment he has had built into his camera.

Meeting adjourned at 11 p. m.

V. P. BURDICK, Secretary.

Los Angeles 8mm. Club

The May meeting of the Los Angeles 8mm. Club was held at the Bell & Howell Auditorium, 716 North La Brea avenue.

C. William Wade was appointed chairman of the Shut-In Committee, to replace C. W. A. Cadarette, whose duties as editor of Thru the Filter prevent him from continuing in both capacities.

Consideration of rules to govern our annual contest provided a lively business meeting and many opinions were voiced by various members. After lengthy discussion the following were adopted:

Section 1. A contest for the judging of films made by Club members shall be held once each year and shall be known as the Annual Contest. The time of entry and judging thereof shall be so provided for that the announcement of the winners, the giving of the awards and the viewing shall be at the Club's annual banquet held in December of each year.

Section 2. Such other contests shall be held during the year as the incumbent officers shall deem advisable for the best interests of the club. Said officers shall in all contests decide the time of entry and the method of judging all entries.

Section 3. Only those members, excluding honorary members, whose dues are paid to and including the month of the meeting when the winners are finally announced shall be eligible to enter and participate in any contests held.

Section 4. Any contestant may enter more than one picture. However, only one picture will be eligible to win a prize. Additional pictures will be judged and given honorary award of their position of placement. The award of a prize to any film shall not prohibit it from winning the Horton Vacation Trophy or any other special award granted or given by persons other than this Club.

Section 5. All contest pictures shall be 8mm., no reductions allowed; may be any length and must have at least an opening and closing title. Sub-titles are not required. No commercial pic-

ture or one made or produced for compensation or made at the same time and on the same set as a commercial picture, shall be eligible.

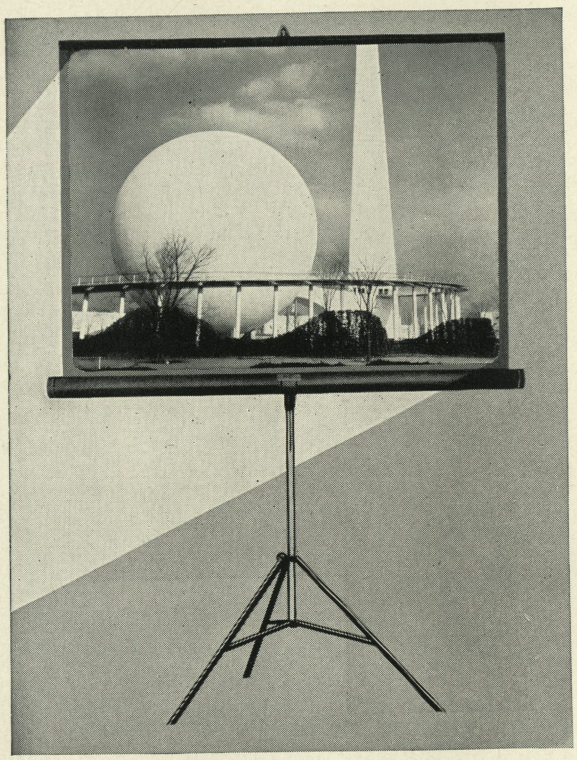
Section 6. No picture winning a prize in any annual contest shall be eligible for entry in any subsequent contest. Pictures, however, entered in monthly or mid-year contests shall be eligible for entry in annual contest.

Films shown were those submitted by members Gecker, Parsons, Leitch, Smith, Gilley and Coleman, "Santa Fe in Miniature" by Allen P. Smith providing a real thrill for the model railroad fans present. This picture, taken of the Santa Fe exhibit at the 1936 San Diego fair—a scale model of part of their system—was an excellent example of miniature set photography, especially when the camera was mounted in front of the engine to give the audience the sensation of actually riding on the train.

V. P. BURDICK, Secretary.

Agfa Adds Three Cykoras

Introduced but a short time ago for portrait work, Agfa Ansco's new projection paper Cykora has been accorded such a reception by photographers that three new surfaces have now been made available to meet the demand for this paper in fields other than portraiture. The new surfaces—glossy single weight, commercial art, single weight and commercial art, double weight—are all offered in three contrast grades that are evenly spaced in gradation.



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New B & L Specialty Head

George G. Tschume, head of photographic lens sales for the Bausch and Lomb Optical Company, has been named to assume the management of the company's specialty department, left vacant by the resignation of Roy G. Walker.

Mr. Tschume has been in the company's employ for thirty years, serving in the factory, production department, stock rooms, and as sales representative in New York City.

Chicago Cinema Club

The Chicago Cinema Club on June 1 occupied its new permanent quarters at the Chicago Engineers' Club, 314 South Federal street, for all future meetings. In addition to many new conveniences the club will have larger quarters, guaranteeing better accommodations for the rapidly growing organization.

Regularly weekly meetings are held throughout the summer. There was a picnic in June and a sailing trip in July. On August 3 there will be held a program for potential and expert fishermen. There will be shown Expert Fishing Pictures.

A Real Record

Carroll Davidson of the Minneapolis Cine Club is a charter member with a perfect attendance record. The two brothers Sprungman, Ormal and Ralph, are runners up, with only one or two misses in three years, and those excused. The 1938-9 season recorded seventeen members with a perfect attendance.

Building Movies Around Music

(Continued from Page 321)

without a single break in music or action.

In screenings which follow, film always will be in sync with the recording, provided that both are started simultaneously and at the proper place. Special marks can be made on both record and film to aid in projection.

Utilizing his synchro-talkie outfit, Leffler has been able to work up a complete picture from a recording of his own voice. This is cut from the usual blank and later played back during actual filming, at which time the subject goes through identical lip movements.

Perhaps one of Leffler's most successful synchro-talkies was a movie recording of the old favorite "Margy." Playing the dual role of actor and director, Leffler also supervised photography, picturing his lathered face in a typical shaving scene during instrumentation, but bursting out in song as the vocal came on.

To climax his stunt, he picked a recording with a soprano voice. The feminine voice coming from masculine lips, perfectly synchronized, pulls more than a chuckle from every audience.

Dye Transfer Enters Commercial Field

(Continued from Page 310)

parison with various stages of the reproduction on paper.

With the present cut size professional Kodachromes it is possible to make high quality separation negatives of identical size. Size variance has always been a difficult problem in one-shot camera work, and few, if any, have ever been able to completely eliminate it.

Carbro, or other flexible color sheet materials can use one shot negatives successfully because they may be stretched into register, but the dye print does not lend itself to this procedure because all matrices must, by their very nature, be of identically the same size and shape.

Study and work on actual transfers over a period of several months has proved the extreme efficiency of the Color Process Laboratory's staff of workers, and has in that short time taken the transfer of color prints out of the hands of not only the advanced amateur but of the professional photographers as well.

For it presents a singular concentration of artistic effort and scientific equipment, too exacting for the professional to devote his time toward perfecting without sacrifice of otherwise more profitable work.

Commercial Uses Interesting

Advertisers frequently make use of these dye transfer prints when it is found desirable to make up composites by photographing the backgrounds separately from the action, or subject part of the picture. This is a phase of the work quite common to black and white photography, but heretofore too complicated and expensive for the color field.

Prints are of such a high quality that they are used in commercial work where retouching or blocking is necessary to gain a desired result. The halftone plates may then be made by the lithographer from the imbibition print.

McLaine and Baker also furnish balanced sets of fully masked separation negatives from which the imbibition prints have been made. These may then be used directly in the lithographic process.

It is never practical nor economical for the advertiser to have lithographic color plates made in small quantities. This is a field peculiarly fitted to the imbibition color prints, which may be furnished in small numbers from the original matrix at astonishingly economic prices. Such application is frequently made toward the forming of salesmen's booklets, sample catalogues, and the like.

Many prints made by Color Process Laboratories have been processed for the largest advertising firms in the country and have been used by them for 24 sheet posters seen along the highways, also for reproduction in the higher grade of periodicals.

Profitable Child Portraiture

By H. Rossiter Snyder. Fomo Publishing Company, Canton, Ohio. Revised Edition. 1939. 50 cents. 37 pp.

This is No. 3 of the new series of "Profitable Photography" booklets by the author, well known as a camera writer. The chapters are "What Is the Business Like?" "Making the Child Portrait," "The Business End of Child Portraiture," "Mechanical and Darkroom Procedures" and "Child Portraiture as a Business or Side Line."

The booklet is packed with suggestions for photographing children, suggestions that will appeal to the amateur as well as the professional. "I would not operate with a camera making smaller than four by five inch negatives," writes the author, "simply on account of the psychological effect which a too-small camera gives.

"Although a 3¼ by 4¼ reflex with my same lenses would serve my purpose equally well and be lighter to carry and slightly more economical to operate, I would not work with it in child portraiture simply because if the equipment appear to be of too small size you are looked upon as an ordinary snapshotter; your work, no matter how good, will not command the same respect or prices over a long period of time. At best it will be said of you 'Yes, he is clever with his baby camera.'"

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"Feminine Foolishness"

By CINEMAKER

Scene 1 (Exterior). Front of Florence's home. A small car drives up and Allan alights. He crosses to front door.

Scene 2 (Medium). Allan ringing door bell and being admitted by her father, who greets him with affability. He likes to see Allan and is glad that a fellow of his commendable sort calls on his daughter.

Scene 3 (Interior). Florence's living-room. Her mother seated sewing as Allan and her father enter. Her mother's sentiments regarding Allan are the same as her father's. Her father waves Allan to a chair as he proffers him a cigar and seats himself in a nearby chair. Her mother rises and indicates that she'll go up and hasten Florence.

Scene 4 (Medium). Her mother going up stairs.

—CAST—

Florence.....a foolish femme.
Her Mother who hopes for the best.
Her Father..who fears the worst.
Allan....whose love is unwanted.
Madge.....her co-hero-worshiper.
Steve.....resort's athletic pro.

(Properties)

Two small cars, luggage, sport clothes, etc., for a vacation at a Lakeside resort, the like of which exists in every State in the Union. Assortment of various sports action pictures.

Scene 5 (Interior Florence's room). As her mother comes in the door, Florence is seated at her dressing table applying make-up. (Pan camera about room picking up various photographs, rotogravure pages, etc. revealing various prominent movie, sports, and other athletic stars in action poses. Footballers carrying the ball, tennis champs in action, aquaplane riders, polo players, et al., establishing the fact that Florence is an extreme hero-worshiper.)

When her mother tells her that Allan is waiting for her downstairs, she merely shrugs. (Narrative, descriptive, or dialogue sub-titles may be used.) This irritates her mother, who likes Allan and detests her daughter's foolish hero-worship. Her mother waves a deprecating hand toward the various pictures adorning the walls. It's a lot of nonsense —this dream-chasing.

On a table or desk, from behind an assortment of other "hero" pictures, her mother draws out a photo of Allan and places it in front of the others. Her daughter shrugs again. He's all right —until the real thing comes along. Her mother thinks she is making a big mis-

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take. She's known Allan for six months now, having met him last winter, and he's the right sort. He obviously is intensely in love with Florence, too, and wants to marry her. Finally they go downstairs together.

Scene 6 (Interior living room). Allan and her father agreeably conversing as Florence and her mother enter. Both men rise. Bidding adieu to her parents, Allan takes Florence's arm and they leave.

Scene 7 (Exterior). Front of Florence's home. Florence and Allan crossing to his car, which they enter. They drive off (Fade-out.)

Scene 8 (Fade-in) (Dusk Exterior). Allan and Florence parked by the roadside in a romantic setting. His arm is about her shoulders and he's telling her how he adores her, worships her—loves her. Unresponsively, she accepts his kisses. She listens attentively, but without enthusiasm. Finally she tells him that she appreciates all of it, that she doesn't want to hurt him—but that she doesn't love him. Maybe she'll change, someday, but she doubts it. He is sad, downcast, discouraged, even slightly heart-broken. With a sigh, he starts the car. They drive off. (Slowly fade-out.)

Scene 9 (Fade-in). Florence's room. Florence is packing for a vacation trip. Seated is Madge, her girl friend who's going with her. They're going to a nearby Lakeside resort. Madge gets up and wanders about the room inspecting the various pictures. While she, too, is a hero-worshiper like Florence, she doesn't carry it to the extreme that Florence does. Madge comes to Allan's photo, picks it up.

She's never met Allan, formally, but she knows all about him from Florence, and she thinks that Florence is foolish to treat him the way she does. Secretly, she'd like to have a fellow like Allan, but she knows she can't do anything about it and still remain Florence's friend; and, like almost all women, she puts her girl-friend's friendship ahead of that of ANY man. Kiddingly, she suggests that if Florence doesn't want him, can she have him? Florence at first registers a quick suspicious glare; but, seeing Madge is only kidding, says sure, she can have him, if her hick tastes are that easily pleased. Florence concludes her packing and the two girls leave (Fade-out.)

Scene 10 (Florence's living-room). Florence kissing her mother and father adieu, who see the two girls to the door.

Scene 11 (Exterior Florence's home). The two girls leaving and boarding Florence's small car. The bags are stowed in back. They drive off (Fade-out.)

Scene 12 (Fade-in). Long-shot, or panorama, of lakeside resort, including angle shots from various vantage points; not forgetting sky, trees, landscape effects, as well as gay activities of swimmers, boaters, aquaplaners, fishers, etc.

Scene 13 (Exterior). Florence and Madge strolling along a promenade. They pause to watch Steve, the resort's athletic pro, doing some fancy dives. There are a number of other girls watching his work with unconcealed admiration and much applause after each dive. (Cut in closeups of dives.)

Scene 14 (Medium). Florence nudges Madge indicating that's the kind of a man she wants. Madge indicates the mob. There'e too much competition. Florence shrugs—what does she care for competition? She can outshine any gal there. Besides, she knows how to play up and use to great advantage what all the boys go for—and the bigger they are, the harder they fall. (Fade-out.)

Scene 15 (Medium). Florence and Madge strolling back along the way they came. Florence sees something that makes her jaw sag.

Scene 16 (Closeup). Florence, her jaw asag, first irritated, then outright annoyed. (Pan camera to pick up that at which she's looking.)

Scene 17 (Medium-long). Allan alighting from his car carrying suitcase and heading for the place to register.

Scene 18 (Medium). Florence and Madge. Florence motions Madge to wait right there, as she'll only be a minute. She going to give Allan a piece of her mind.

Scene 19 (Medium). Beside the registry. Florence stomps into the picture seething with impulsiveness and demands to know of Allan why he followed her up here; that it was presumptuous of him to think he could tag along and cramp her style; just because he's known her six months, and has had a few dates with her, he doesn't own her, etc. (Subtitles may be necessary, unless the girl acts.) She winds up by saying that she

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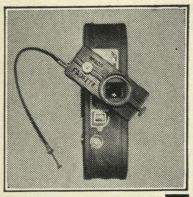

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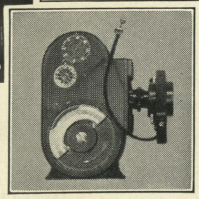

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hates him, for coming up, and never wants to speak to him again—and that he will kindly not ever speak to her again.

Scene 20 (Medium). Allan is abashed and embarrassed, but he weathers it rather well much to the amazement of the bystanders. He indicates that it's a public resort and that anyone may come and go as they choose.

Scene 21 (Medium). Florence, giving him one final glare, flounces out of the picture.

Scene 22 (Medium). Madge observing the above scene with considerable personal interest. So *that* is Allan. He looks pretty good to her. Although she's seen his picture many times, and heard much about him from Florence in the latter's depreciating manner, this is the first time she's actually seen him. One supercilious eye-brow raises as we—(Fade-out.)

Scene 23 (Fade-in) (Medium). Florence without Madge watching Steve at some sport; (i.e. whatever's available: diving, aquaplaning, archery, tennis, badminton, et al.) She flirts with him and he responds. They make a date for later that evening. Then she leaves to find Madge.

Scene 24 (Medium). Allan enters and joins the sport which is dominated by the pro and proves to be as good as the pro, which wins the latter's sincere and complete respect. Allan and Steve get along well like a couple of buddies. When Allan expresses complimentary envy for Steve's popularity with the females, Steve only shrugs and expresses that he's bored with all of them, but that he has to be nice to them because it's part of his job.

Fact is, Steve wouldn't give a candle for the best of them. As they go on with the sport in which they are participating (in fact, several sports may be used if they are available in a series of sequences), the feminine followers and amateur participants hail Allan in preference to Steve—because Steve is the pro and works at it for a living, while Allan is a guest and is otherwise fair prey for the brief time he'll he there. Allan takes these "weaned-away-from-the-pro" followers in stride and it doesn't go to his head.

In fact, the only time he loses his mental equilibrium is when he's talking to the girl he loves. When this happens his arms are all hands, and his hands all thumbs, and he's also tongue-tied. But, girls don't appreciate this as true signs of love, rather than the stupidity, dumbness, and clumsiness, which latter is what they really think it is. So he accepts the adulations of the mob of females and he and Steve get on with their sport. (Fade-out.)

Scene 25 (Medium-close). Florence and Madge sitting, sipping a drink. Florence brags to Madge that she has a date with Steve that night; and that, after she has him "hooked," she'll ask him to get a friend who's as good at the various sports as he is for a double date with Madge the next night. (Fade-out.)

Scene 26 (Evening). Florence and

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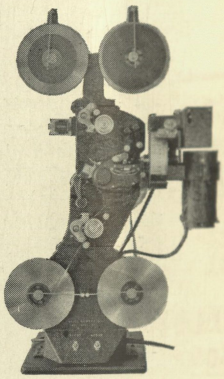

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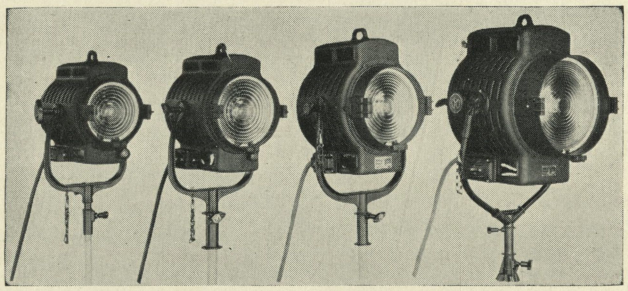

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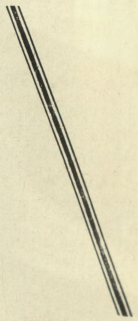

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Steve keeping their tryst. They stroll off for a walk, a canoe ride, or whatever is available.

Scene 27 (Closeup). Florence throwing herself into Steve's arms, as soon as the opportunity affords and we fade out.

Scene 28 (Medium) (Fade-in) (Night). Florence and Steve returning from whatever they've been doing (canoeing, walking, etc.). They meet Madge strolling with a young fellow she's met at the dance. Florence introduces Madge to Steve. The two pairs go their respective ways.

Scene 29 (Medium-close). Florence, possessively hanging on to Steve, tells him that that's her girl-friend, and will he get a friend for her for the next night and make up a foursome. He agrees. (Fade-out.)

Scene 30 (Day) (Fade-in) (Medium). Steve and Allan engaged in one of their favorite sports. Madge strolls by without Florence.

Scene 31 (Medium-close). Steve nudges Allan and, indicating Madge, asks him how he'd like to make up a foursome with her that night and other girl he knows. Never having met Madge, and not knowing who Steve's other friend is, Allan agrees.

Scene 32 (Medium). Steve and Allan continue to receive the adulations of the crowd of girls as they continue their sport. Florence joins Madge in the throng, and for the first time observes Allan's prowess.

Scene 33 (Close-up). Florence amazed at the ability of Allan. She never dreamed he had all this in him. Inwardly she begins to feel sorry for the way she's treated him; but, outwardly, her stubborn pride won't let her give an inch —much less admit she's wrong.

Scene 34 (Medium). Irritated by the popularity of Allan, Florence drags Madge away from the mob of "dizzy dames" not realizing that she's always been one of them and suggests that they do something else.

Scene 35 (Closeup). Madge is amused at Florence's irritation; and although she doesn't want to leave the audience watching the two boys, she'd rather be agreeable to Florence. So they both leave. (Fade-out.)

Scene 36 (Fade-in) (Night) (Medium). The trysting place where Florence and Madge are to meet Steve and Allan. Florence still does not know that the extra man is Allan. When the four get close enough for recognition, Florence is amazed to see Allan, but quickly recovers and throws herself into Steve's arms for a kiss.

Scene 37 (Closeup). Florence in Steve's embrace, as she watches out of the corner of her eye the greeting between Allan and Madge, which is comparatively formal.

Scene 38 (Medium). The four chatting as they link arms in couples, and stroll away by pairs.

(Here a series of scenes depending on the settings available: on benches under trees, low-hanging tree branches, small foot-bridges over streams, canoe landings, lakeside walks, etc. Throughout Florence is doing the clinging vine act with Steve, throwing herself at him with every movement, every gesture; while Allan and Madge are a bit more formal—but not too much so.)

Scene 39 (Medium). All four return-

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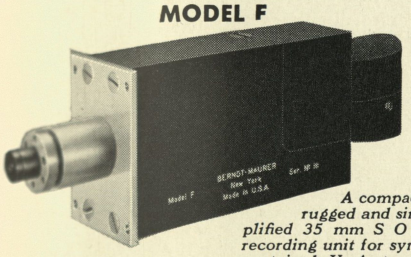

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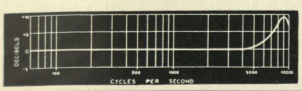

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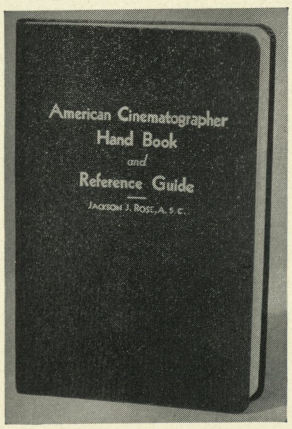

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ing to the starting place and break-up for the evening. Both couples slightly separate for intimate conversations.

Scene 40 (Closeup). Florence and Steve in the throes of arduous good-night kisses.

Scene 41 (Closeup). Allan and Madge. He asks her to meet him alone early in the morning without Florence, for a swim or a horse-back ride (or whatever is available) to which she agrees. He kisses her (lightly), to which she responds good-night.

Scene 42 (Medium). The two men going off together in one direction and the two girls in another. (Fade-out.)

Scene 43 (Interior) (Medium). The two girls in their room. Florence begins to act chilly towards Madge. Madge remonstrates that she didn't know. It's the beginning of a big row to come later. In this scene the chilliness just begins as they retire. The girls may be shown undressing (as far as the censor allows) as the chilliness of Florence for Madge begins to permeate their environment. (Fade-out.)

Scene 44 (Fade-in) (Exterior). The trysting place of Allan and Madge. They stroll off for their swim, or canoe ride, or hike, or horse-back ride, or whatever it is.

Scene 45 (Medium-close). Allan and Madge in repose and in intimate conversation. To all appearances they are "a peach of a pair." They seem to belong together. As they both discuss all sorts of things; especially the clouds, trees, grass, and nature in general—time flies.

Scene 46 (Medium). Florence, cattishly suspecting that Madge is out somewhere with Allan, is trying to wander about apparently casually but actually looking for them. Eventually she comes upon them in Scene 45.

Scene 47 (Medium). Same as Scene 45. Allan and Madge with Florence entering the scene. Emphatically snubbing Allan, Florence begins to give Madge a piece of her mind. She does it unthinking, impetuously, jealously, wrathfully, and succeeds in making quite a scene. Madge handles the situation beautifully, calmly, quietly reminding Florence of her attitude toward Allan as it was frequently told to her (Madge) by Florence almost as long as they have known each other, etc.

Finally, unable to bear Madge's quiet calmness, even more unbearable than the accuracy of her assertions, Florence slaps her face. Then Allan sees the light. Fully realizing what an unspeakable girl he has been in love with, he steps into the proceedings and sides with Madge. (This business may be handled at the discretion of the director, depending on the dramatic ability of his players.) Finally, Madge and Allan depart, leaving Florence fuming. (Fade-out.)

Scene 48 (Fade-in) (Exterior). Madge and Allan putting their bags in Allan's car. They both have decided that they are very much in love. They both enter the car; and, after several generous demonstrations of affection, they drive off.

Scene 49 (Medium). Florence in another part of the resort trying to hide her chagrin. She sees Steve—but Steve sees her first—and when she approaches him, he begs to be excused—he has work to do. There is a new feminine arrival near Steve, on whom he seems to be concentrating his attention.

Scene 50 (Medium). Florence sees a handsome new male arrival, and she begins boldly, and with a vengeance—almost outrageously—flirting with him as we

(Fade-out)
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AGFA Introduces New 16mm. High Speed Reversible Film

Climaxing a period of extensive research, Agfa Ansco now introduces Triple S Superpan Reversible, a new 16mm. motion picture film that provides extremely high speed without sacrifice of other desirable emulsion characteristics.

The new film is four times faster than Agfa 16mm. Superpan Reversible, and accordingly, permits two lens stops less exposure or a corresponding increase in subject range for any camera in which it is used. Because of its extreme speed, Triple S Superpan is ideal for outdoor and indoor night scenes, for slow motion films of football, baseball, hockey and other sports in poor light, and for a wide range of other subjects which have heretofore been beyond the reach of cine equipment.

Of equal importance to this increase in speed, Agfa Triple S Superpan Reversible combines with its high sensitivity exceptionally fine grain and brilliant gradation, thus assuring clear, sparkling pictures on the screen. Latitude of the film is also excellent. Halation protection is provided by the effective underlayer used on all Agfa reversible films.

Benoit Starts Shooting on Production in Cairo, Egypt

Georges Benoit, A.S.C., foreign representative of The American Cinematographer, is now in Egypt, where in Cairo he will photograph for the Abdel-Wahab Film Company a production headed by the famous M. Abdel-Wahab. The star is the greatest singer of all the Mussulman countries. He is directed by the well-known M. Mohammed Karim.

It is Benoit's fourth production with the same company. Each of these so far has been started in Cairo and finished in one of the Paris major studios. Production is expected to continue about two months. Due to the warm weather work usually begins at 4 p.m. and finishes at midnight.

The cinematographer is the only European member of the company, all the others being Egyptians. Nevertheless the producer and the star speak both French and English, which makes it all very simple for the photographer.

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Government and Amateurs in Bombay Join for Uplift

The Government of Bombay is cooperating with the Amateur Cine Society of India in order to get films which will teach industrial workers something of social uplift in its various forms. It is offering a first prize of Rs. 500 and total cash prizes of Rs. 750 for substandard cine films.

This is part of a larger contest oganized by the Amateur Cine Society of India from its headquarters at Scouts' Hut, Esplanade Maidan, Bombay. For this competition there is a total of Rs. 2000 in prizes comprising two cups, ten plaques, a medal, various cash prizes, cine apparatus, etc.

There are twenty-three prizes in all, the majority being in cash, and a handsome cup for the best film, with a separate cup for the best color cameo of 100 feet, and bronze plaques designed by the Sir J. J. School of Art, Bombay, for the ten best films of India, Burma and Ceylon.

Closing date is the end of the year, and entry form with full particulars are given in a brochure which the A.C.S.I. has issued entitled "Amateur Cine Work in India."

Agfa Ansco Announces New 20-Exposure Leica Cartridge

Users of Leica and similar 35mm. miniature cameras who prefer film lengths shorter than the standard 36-exposure load will be interested in the new 20-exposure Agfa film cartridge that has just been introduced.

Available in five popular types of Agfa 35mm. film—Fine Grain Plenachrome, Superpan Supreme, Ultra-Speed Panchromatic, Finopan and Infra-Red, the 20-exposure length is supplied in the same improved-type daylight-loading cartridge used for 36-exposure lengths of Agfa film.

The new 20-exposure cartridge does not replace the 36-exposure unit, merely supplementing it to round out the group of Agfa 35mm. films. Made by Agfa Ansco Corporation in Binghamton, N. Y., these new film cartridges are now in dealers' stocks and are listed at the following prices: Superpan Supreme, Finopan and Ultra-Speed Pan, 65 cents each; F. G. Plenachrome, 60 cents; Infra-Red, 75 cents.

Japan Tightens Film Grip

The Government of Japan is taking steps to control all phases of the motion picture industry in that country, according to a report from Consul S. G. Slavens, Tokyo.

Under a proposed law now being considered by the Imperial Diet official permission must be obtained in order to engage in the film industry. This permission may be withdrawn at the will of the Government. Control over films as proposed by the law includes not only censorship but also designation of the kinds of pictures to be produced. The importation of foreign films and the exportation of Japanese films will be officially controlled, the report said.

First Mid-Western Forum Conducts Two-Day Session

Because of the greatly increasing use and demand for visual and audio-visual aids, the First Mid-Western Forum on Visual Teaching Aids was held at the Hotel Morrison, Chicago, May 12 and 13.

The primary purpose of the program for this First Mid-Western Forum on Visual Teaching Aids was to provide help to the classroom teachers interested in information concerning the use of visual teaching tools.

The program each day was divided into three clinics; the elementary school, the high school and the college clinic. The approach and the unique character of the features in these clinics were most helpful and instructive.

Biological Photographic Association in Convention

The ninth annual convention of the Biological Photographic Association was held September 14-16 at the Mellon Institute for Industrial Research, Pittsburgh, Pa. The program was of interest to scientific photographers, scientists using photography as an aid in their work, teachers in the biological fields, technical experts and serious amateurs. It included discussions of motion picture and still photography, photomicrography, color and monochrome films, processing, etc., all in the field of scientic illustrating. Up-to-date equipment was shown in the technical exhibit; and the Print Salon displayed the work of many of the leading biological photographers here and abroad.

The Biological Photographic Association was founded nine years ago because of the growing need for expert illustrative material for scientific research and teaching.

Information about the association and the convention may be obtained by writing the secretary of the Biological Photographic Association, University Office, Magee Hospital, Pittsburgh, Pa.

Univex Now Has Three Lens Turret for 8mm. Cameras

The Universal Camera Corporation of 28 West Twenty-third street, New York, has produced a Univex three-lens turret 8mm. camera with either 4.5 or 3.5 lens. For the two others the purchaser may select lenses of varying speeds of focal length to suit particular needs. Any one of the three lenses may be snapped into position instantly. The new turret camera complete with the three lenses weighs less than three pounds.

Putting Typewriter in 16mm.

A motion picture on the typewriter—what it is and how to use it—has been completed by Harmon Foundation, Inc., New York. In making this film, the first of its kind to be produced, the Foundation was assisted by the six major typewriting companies. Entitled "Know Your Typewriter," the motion picture is a three-reel 16mm. silent one, since this is the type of film most generally used by schools, clubs, and business office groups.

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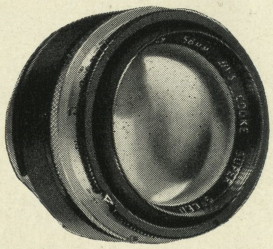
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Camera Pictorialists of Bombay Hold Third Salon

Under the auspices of the Camera Pictorialists of Bombay the third Indian international salon of photographic art will be held at the Town Hall, Bombay, during the coming November. The Pictorialists are affiliated with the Royal Photographic Society of Great Britain. The exhibition will be held under the patronage of Sir Roger Lumley, governor of Bombay. The last day for receiving entries will be September 8, 1939.

Not more than four prints, which must be the unaided work of the entrant (mounting excepted) may be submitted by any one contributor, and each print must have on the back clearly written in block letters section, number and title of print; name and address of contributor; and process to agree with entry form.

N. B. Cooper, honorary secretary, calls particular attention of contributors to the closing date of receiving entries, expressing his regret that at the last exhibition it was necessary to return an unusually large number of entries received too late for consideration.

Inquiry at the local post office brings information that the normal mailing time between Bombay and New York is from nineteen to twenty-three days.

Sound Men Witness Vocoder Tryout

(Continued from Page 296)

twice normal, the voice seems more brilliant; when four times normal it sounds febrile, unnatural. The controls can be reversed so that high becomes low; tune of a song is unrecognizable, and speech has the odd lilting character of the Scandinavian tongues.

Miraculous Trio

After explaining the fundamentals of the Vocoder circuit Mr. Dudley proceeded to demonstrate the tonal qualities of a sentence when delivered with Vocoder running up and down the electrical frequency scale. At the low end, the voice was a deep rumble, while at the top side was a shrill sound with the words faintly recognizable.

Then Mr. Vadersen, in normal tones, spoke into the microphone, but the quavering voice of an old man emerged from the loud speaker. By combining three different pitch channels of the Vocoder, the one voice came out of the loudspeaker as a trio singing in unison.

Through records played on a turntable and attached to the Vocoder, the demonstration then proceeded to show that speech can be created out of complex sound, and used as examples starting of a train, an aeroplane flying overhead, the musical tones of a pipe organ, and the hum of a power generator.

Uncanny and magical was the creation of words from the purring aeroplane, and the train; but most amazing was the word accompaniments created by the Vocoder from musical instruments. A pipe organ record suddenly transformed the treble notes of the chorus into easily recognizable words—and the exact words of the song itself. The same effect was secured by Vocoder treatment of a recording of a string quartette.

British Cinematographer Talks of Hollywood

(Continued from Page 303)

ten cameras and their crews ready to go on at almost as short notice.

In England, we are not so fortunate. In too many cases a camera mishap, or a sudden call for extra cameras, can mean exasperating delays to production, simply because the studio is not likely to be equipped with many spares.

In general, the chief differences between Hollywood and English production is in just such little things as that; little accessories which we often have to improvise on the spot, but which you in Hollywood not only have already as a result of the many years of production activity in your studios, but which you take as a matter of course.

American Influence

Much of the general similarity between Hollywood and British studios, methods and equipment can be credited to the influence of the several American cinematographers and other technicians who have been active in British production during recent years.

An American art director, Jack Okey, designed and built the Denham Studio; other American photographers and technicians have had much influence in equipping our studios with the things which Hollywood's years of experience had proved best.

Some of my more impetuous compatriots have expressed resentment at the activities of American cinematographers and technicians in the British studios. I have never been able to justify this attitude. I do not believe that the activities of any of the outstanding Americans who have made pictures in our British studios have kept any comparably capable British technicians out of work.

On the other hand, we have much for which to thank our American fellow-cinematographers. At the time when we were most urgently in need of it, they brought to us the most up-to-date knowledge of methods and materials from the world's greatest production center—knowledge which has played an important part in the last few years' progress in British films.

In addition, their work and the salaries paid them have done much to impress our producers with the value of capable photographers. These salaries, in turn, are bearing fruit in a slow but steady improvement in the compensation paid to British cameramen and their crews.

As compared to American standards, there is still much to be done in this direction; but I feel that the influence of the Americans who have made pictures in British studios has done much to start the ball rolling in the right direction.

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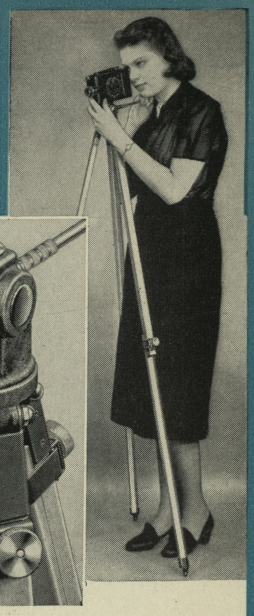

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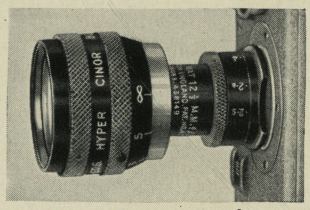
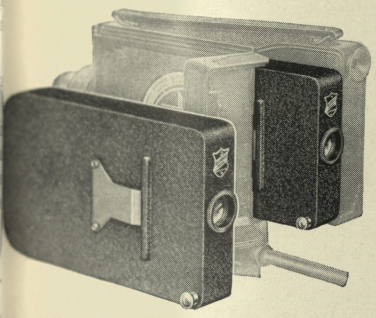
The new Hyper Cinor lens attachment doubles the angle of the lens on which it is used, so that the area photographed is twice as wide and twice as high as usual. Also, it includes provision for focusing. It is a boon to 8 mm. film users particularly, for wide-angle lenses are not available for Filmo 8's.



New Hyper Cinor Lens Attachment on the T-H ½-inch F 2.5 universal focus lens of the Filmo 8 mm. Camera.

The attachment can be had for the T-H ½-inch F 2.5 lens used on Filmo 8's, and for the T-H 1-inch F 2.7 and B&H Lumax 1-inch F 1.9 lenses for 16 mm. Filmos. Unit quickly screws on or off of lens with a few turns. Price $21

Objectives for matching various Filmo Camera viewfinders to the larger lens field are available. Prices upon request.



New Direct Focusing Finder for Filmo 141

Magnifies Image Ten Times!

Good news for Filmo 141 owners! This new Focusing Finder, which slips into the camera in place of the film magazine, permits both precise visual focusing and accurate framing of any subject, near or far, through any lens. The image is upright and is magnified TEN TIMES! All parallax errors are eliminated. Particularly valuable for extreme close-ups, small objects, titles, maps, and animated cartoon filming. Price, $20

New 2-Inch Lenses and Matching Finder Unit for Filmo Turret 8

With the two-inch lenses now available for the Filmo Turret 8, you can shoot distant scenes with four-diameter magnification; in other words, record images sixteen times as large as with the regular ½" lens.

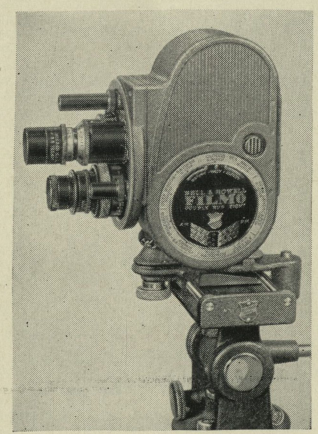
2" Finder Objective for Turret 8 . . . . . .$ 5.50

2" F 3.5 T-H foc. lens for Turret 8 . . . . . .$57.00

2" F 2.8 B&H foc. lens for Turret 8 . . . . . .$54.00

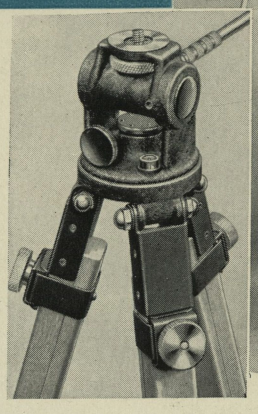
New Focusing Alignment Gauge for Filmo Turret 8

This new Alignment Gauge permits using the Filmo Turret 8 critical focuser to the full extent . . . for both focusing and framing from the position the lens will occupy when the scene is filmed.



New Focusing Alignment Gauge set up for use on B&H Tripod

For use, the gauge is mounted on your tripod and the Turret 8 attached to the sliding block of the gauge. With the block slid to the left end of the track, the critical focuser is positioned exactly the same as the photographic aperture is when the block is slid to the right end of the track. Thus, titles or any subject may be sharply focused and accurately composed, and then photographed with complete assurance. Price, $7.50



New Low-cost Filmo Tripod

The new Filmo Tru-Pan Tripod, although priced in keeping with the economy of 8 mm. movie-making, provides the same all-round utility and smoothness of action as the B&H All-metal Tripod, for its pam and tilt head is the same. The Tru-Pan two-section legs, of selected straight-grained birch, are strong and rigid, and may be adjusted to a wide range of lengths. Price, $18.75

LENSES
. . . for 8 mm. and 16 mm. Filmos

Before your vacation, increase your Filmo's versatility by getting an extra speed, wide-angle, or telephoto lens or two. Your dealer offers fine color-corrected Taylor-Hobson and B&H lenses in diversity for your Filmo. Some of these are:

FOR 8 MM. FILMOS

* ½" F 1.4 T-H foc.	$76.50
1 " F 2.7 T-H foc.	$46.00
1½" F 3.5 T-H foc.	$57.00
½" F 2.5 B&H foc.	$40.00
1½" F 3.5 B&H foc.	$46.00

**For single-lens 8's; not for Turret 8.*

FOR 16 MM. FILMOS

15 mm. F 2.5 T-H univ. . . .	$46.00
1" F 1.5 T-H foc.	$76.50
2" F 3.5 T-H foc.	$57.00
4" F 4.5 T-H foc.	$76.50
6" F 5.5 T-H foc.	$76.50
1" F 1.9 B&H foc.	$54.00
3" F 2.8 B&H foc.	$65.00

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Please send additional information about:

( ) Hyper Cinor Lens Attachment
( ) New Wood-leg Tripod
( ) Focusing Finder for Filmo 141
( ) Focusing Alignment Gauge for Turret 8

Lenses for ( ) 8 mm. Filmos
( ) 16 mm. Filmos

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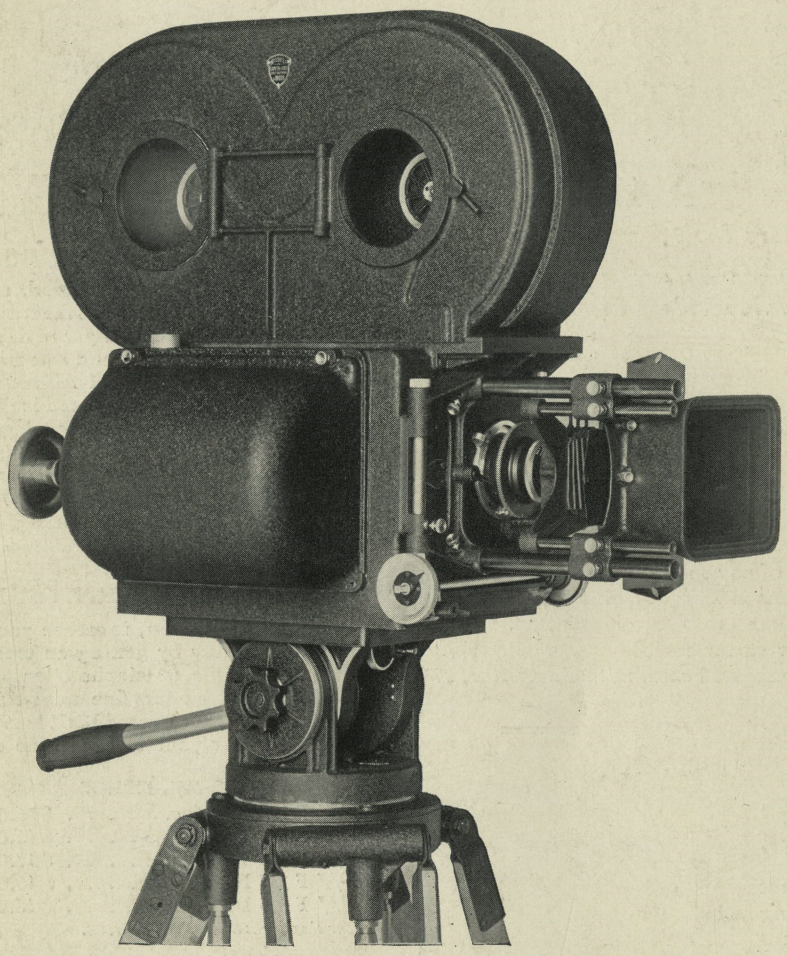

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